

**State of Georgia**  
**Department of Transportation**

# PLAN DEVELOPMENT PROCESS - 2000



## **POLICIES AND PROCEDURE 4050**

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Atlanta, Georgia 30308



This document was developed as part of the continuing work of the Preconstruction and Program Delivery Divisions and is provided as guidance within the Georgia Department of Transportation in fulfilling its mission to provide a safe, efficient, and sustainable transportation system through dedicated teamwork and responsible leadership supporting economic development, environmental sensitivity and improved quality of life. This document is not intended to establish policy within the Department, but to provide guidance in adhering to the policies of the Department.

Your comments, suggestions, and ideas for improvements are welcomed.

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# **Plan Development Process**

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## CHAPTER 1: GENERAL

This document sets forth the current procedures and steps necessary for the Georgia Department of Transportation (GDOT) to administer Federal-Aid projects in accordance with the policies and objectives of [Titles 23](#), 40, and 42 United States Code, and to administer State-Aid projects to fulfill the policies and objectives of Title 32, Official Code of Georgia Annotated. The document outlines the current process of project development from project identification through construction award or final acceptance.

A number of additional resources are available to the Project Manager in the carrying out of their responsibilities for project development. You are directed to the Repository for Online Access to Documentation and Standards (R.O.A.D.S), and Transportation Online Policy and Procedures System (POLICIES AND PROCEDURES) for this guidance. GDOT Management, each Division, and a number of offices have developed their own procedures for accomplishing the mission of the Department.

The Department has adopted the Plan Presentation Guide (PPG) found at [http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/Plan/Plan%20Presentation%20Guide\\_03\\_05\\_07.pdf](http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/Plan/Plan%20Presentation%20Guide_03_05_07.pdf) to give the Project Manager- guidance in the way information is to be presented and included in the plan packages. This document should be consulted in order to standardize the appearance of GDOT plans and ensure the appropriate information is included for construction.

It is a goal of the Department of Transportation to develop a quality set of right-of-way plans, construction plans, and bid documents through a cooperative effort with its stakeholders that result in a project design and implementation that is the best transportation value for the taxpayers of Georgia.

The document for Local Public Agency Guidelines is located at: <http://www.dot.ga.gov/localgovernment/TransportationPrograms/Documents/LAPManual.pdf>

## CHAPTER 2: DEFINITIONS

Advanced Transportation (Traffic) Management Systems (ATMS) – An array of institutional, human, hardware, and software components designed to monitor, control, and manage traffic on streets and highways. ATMS is a subset of ITS.

Advanced Traveler Information Systems (ATIS) – An array of institutional, human, hardware, and software components designed to inform travelers of current information on travel conditions and/or incidents. ATIS is a subset of ITS.

Authorization of a Project - The process by which funds are approved for various stages of a project's development, such as design, right-of-way purchase, or construction.

American Association of State Highway and Transportation Officials (AASHTO) – An organization made up of State's Department of Transportation including Puerto Rico and the District of Columbia.

American Association of State Highway and Transportation Officials

444 North Capitol Street, NW

Suite 249

Washington, DC 20001

Telephone: (202) 624-5800, Telefax: (202) 624-5806, [www.aashto.org](http://www.aashto.org)

Artemis Project View – A scheduling component of TPro that manages the interconnection of thousands of projects and resources.

Baseline Version 99 – The Baseline Version 99 is a fixed schedule established at the conclusion of the scheduling review committee meeting used to track project status, review project history, learn reasons for delay, and to evaluate how well proposed schedules are met.

Benefit to Cost Analysis (BCA) - A tool for comparing the benefit and costs resulting from a transportation improvement typically through calculation of a benefit/cost ratio (b/c ratio). The BCA is a tool that can be used to evaluate whether a project should be undertaken and what priority the project should hold.

Concept – A consensus beginning recommendation, idea, or starting point of a transportation solution to an identified transportation need. The objective of the concept stage is to develop a concept report that will describe and recommend project footprint, including logical termini.

Construction Work Program - A listing of State and Federally funded projects approved by the Transportation Board with one or more elements, Preliminary Engineering, Right-of-Way Acquisition, or Construction, scheduled in the current and next five (5) years fiscal years.

Consultant Acquisition Plan (CAP) – List of potential projects for outsourcing to consultants per fiscal year.

Consultant Pre-qualification – The Department has policies for the qualification of consultants prior to consideration for providing engineering services. A copy of the policies, definitions and application forms for consultant qualification are available on the Office of Transportation Services Procurement website:

<http://www.dot.ga.gov/doingbusiness/consultants/Documents/Consultant%20Prequalification%20Manual11509.pdf>

Contract Authorization Form (CAF) – A Procurement form used to authorize funds for a contract.

Controlling Criteria – Those controlling design guidelines, as defined by [AASHTO](#) and accepted by the FHWA, that a project should be designed to meet good engineering judgment. A design exception or variance will be obtained when one or more of these controlling criteria cannot be met. See Chapter 8 for a listing of the controlling criteria.

Context Sensitive Design - Context Sensitive Design is a collaborative approach to design that weaves together design principles, environmental concerns and community quality of life into one complete package. It's balancing the concerns and desires of the community for their environment and way of life with the sound engineering practices endorsed by [AASHTO](#). It also firmly involves the public in the decision making process to encourage ownership and responsibility for the final product.

Cooperating Agency - As defined in the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA), "any organization other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in ...[a] major Federal action significantly affecting the quality of the human environment." The CEQ emphasizes that agency cooperation should begin early in the National Environmental Policy Act (NEPA) process.

Design Exception – If design features of a new construction or reconstruction project do not meet controlling criteria in the current edition of the AASHTO *Green Book* and the AASHTO publication, *A Policy on Design Standards – Interstate System*, as adopted by the Federal Highway Administration (FHWA), approval to build or retain the feature is required. For interstate projects, the FHWA is the



agency which grants design exceptions. For all other projects, both Federal and State funded, the Chief Engineer grants exception.

Design Manager – The individual appointed by the Project Manager and charged with the coordination and timely delivery of a particular design phase.

Design Team Leader – The individual charged with the responsibility to compile the various activities of the Plan Development Process.

Design Variance – Whenever a new construction or reconstruction project contains nonstandard items that are not controlling criteria or do not meet GDOT policy/guidelines, a design variance shall be requested from the Chief Engineer.

Electronic Data Guidelines (EDG) – Guidelines that set forth criteria, procedures and standards for computer and/or other electronic data used in the preparation of plans and other documents. EDG can be found at:

<http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/Pages/Committee.aspx>

Environmental Justice – The fair treatment and meaningful involvement of all people regardless of race, color, or economic status with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people shall bear a disproportionate share of the negative environmental impacts that result from a particular project or program and shall share in the benefits derived from such projects and programs.

Exempt Projects – A Federal aid project that is not subject to FHWA design oversight. Exempt projects as used in this document, unless otherwise noted, do not refer to Air Quality Exempt. However, the FHWA retains approval authority for the environmental document. For further information concerning Exempt Projects see POLICIES AND PROCEDURES 2410-1.

Federal Emergency Management Agency (FEMA) – The Federal agency in charge of the enforcement of Executive Order (EO) 11988. The primary function of the agency is to avoid long and short term adverse impacts associated with the occupancy and modification of floodplains and to restore and preserve the natural and beneficial values served by floodplains.

The agency assesses floodplain hazards in all construction of Federal and Federally Aided buildings, structures, roads, or facilities, which encroach upon or affect the base floodplain.

Federal Highway Administration (FHWA) - An agency of the U.S. Department of Transportation and is headquartered in Washington, D.C., with field offices across the United States. The FHWA

administers the Federal-Aid Highway Program.

The FHWA Georgia Division Office is located at:

GEORGIA DIVISION OFFICE (HDA-GA)

61 Forsyth Street, SW, Suite 17T100

Atlanta, Georgia 30303-3104

Telephone: 404-562-3630

[www.fhwa.dot.gov](http://www.fhwa.dot.gov)

Federal Transit Administration (FTA) – The Federal Transit Administration is the federal agency that helps cities and communities nationwide provide mobility to their citizens. Through its grant programs, FTA provides financial & planning assistance to help plan, build, and operate rail, bus & para-transit systems. <http://www.fta.dot.gov>

FTA ITS Regulation – The FTA companion regulation to FHWA’s ITS Rule 940, which is functionally the same as the FHWA rule, but it applies to federally funded transit projects.

Final Field Plan Review (FFPR) – A review of final plans and specifications, special provisions, permits, right-of-way agreements and utility conflict resolutions. The Final Field Plan Review (FFPR) shall be held a minimum of 16 weeks prior to letting.

Fiscal Year – The State of Georgia fiscal year is July 1 to June 30. All budgets and state programs, including transportation plans, adhere to this fiscal year. The Federal fiscal year is October 1 to September 30.

Full Oversight Project - Those projects administered by the FHWA, for which the FHWA has full responsibility for review, approval and authorization.

Functional Classification - A grouping of roads, streets and highways into an integrated system, within which, each roadway facility is ranked by its relative importance and function in providing access and mobility within the integrated system. Based on guidelines issued by the [FHWA](#), the Department ranks roadways as local roads, major or minor collectors, and minor or principal arterials. Functional Classification Systems are developed, in cooperation with local officials, for each county and city and submitted to the FHWA for approval.

Georgia Department of Transportation is located at:

One Georgia Center

600 W. Peachtree Street

Atlanta, GA 30308

GDOT Homepage: [www.dot.ga.gov](http://www.dot.ga.gov)

Georgia Environmental Policy Act of 1991 (GEPA) – This act (Senate Bill 97) passed during the 1991 session of the Georgia Legislature, requires the evaluation and disclosure of environmental effects of proposed state (funded) actions. In general, a proposed action by a government agency must be assessed by the responsible official (the Commissioner is the responsible GDOT official) of that agency to determine and document whether or not the proposed action may significantly affect the quality of the environment. In the event of a determination of a significant adverse effect, the act requires an evaluation of the pros and cons of alternatives that would avoid the adverse impact as well as measures to minimize harm.

Georgia Erosion and Sedimentation Act [Amended 2003] – A plan for the control of soil erosion and sedimentation resulting from a land-disturbing activity. Reference official Code of Georgia Annotated Volume 10 Title 12.Intelligent Transportation Systems (ITS) – An array of electronic, communication, or information processing systems used singly or in combination to improve the efficiency or safety of a surface transportation system.

ITS Architecture – A framework within which a system can be built. Requirements dictate what functionality the architecture must satisfy. Architecture functionally defines what the pieces of the system are and the information that is exchanged between them. Architecture is functionally oriented and not technology-specific, which allows the architecture to remain effective over time. It defines “what must be done,” not “how it will be done.” It may be statewide (not required), regional or project (one of the latter two required).

ITS Rule 940 –Project receiving Federal funds to follow a systems engineering analysis, commensurate with the project scope, for any project that moves into design. If the project moves into design prior to the completion of a regional architecture, a project architecture is required to support the system engineering analysis.

Interchange Justification Report (IJR) - An analysis prepared in accordance with FHWA guidelines, for any proposed new interchange on the Interstate System. The IJR is typically an Office of Planning activity prepared with the assistance of the Division of Preconstruction. Due to its nature, the IJR provides planning level information for a tentative location with the concept displayed on aerial photography. The Office of Planning submits the IJR to FHWA for consideration.

Interchange Modification Report (IMR) - An operational analysis prepared in accordance with FHWA guidelines, for the addition of access points to an existing interstate interchange. The IMR addresses interstate access point changes that are needed to improve operations and safety of an existing interchange. The IMR is a Division of Preconstruction activity, prepared with the assistance

of the Office of Planning. Due to its nature, the IMR is engineering oriented, providing detailed analyses and preliminary design plans. The Office of Planning submits the IMR to FHWA for consideration.

Local Administered Project (LAP) – This Manual sets forth the current procedures and steps necessary for local Governments to administer Federal aid projects in accordance with the policies and objectives of Federal and state laws.

<http://www.dot.ga.gov/localgovernment/TransportationPrograms/Documents/LAPManual.pdf>

Let Date - The advertised date that construction bid proposals will be opened for GDOT projects. Also see Management Directed Let Date.

Local Government Project Agreement (LGPA) – The LGPA delineates the local government's role in advancing a project through design to construction. The local's role may include such items as responsibility for design, public and private utility relocations, purchasing of right-of-way, letting, construction supervision, or construction. The LGPA also serves to indicate the local government's support and financial commitment to the proposed project. [The Office of Financial Management normally prepares the LGPA]. As of 2006, see Project Framework Agreement (PFA).

Location and Design Approval (L&D): Federal Aid projects: Location and design approval is granted by the FHWA with their approval of the project's environmental document acknowledging that the Department has selected an appropriate location and has committed to a specific design of the proposed project.

Location and Design Approval (L&D): State Funded projects: Location and design approval is granted by the Chief Engineer with the certification that the Department has completed the required public involvement process, the GEPA documentation, has selected an appropriate location, and has committed to a specific design of the proposed project.

Logical Termini - A term used to describe the beginning and ending points of a proposed transportation improvement and whether the selection of these points has a rational basis when viewed in light of the project's need and purpose. Federal regulations [23 CFR 771.111(f)] require that projects connect logical termini and be of sufficient length to address environmental matters on a broad scope; have independent utility, that is, be usable and be a reasonable expenditure even if no additional improvements are made in the area.

Major Investment Study (MIS) – A broad transportation alternatives study performed as a part of the NEPA process for a major federal aid investment within a Metropolitan Planning Organization that provides information about multi-modal options, estimated costs, potential impacts, and

potential benefits. This study is a collaborative effort of the Metropolitan Planning Organization, governmental agencies, and public interest to develop a design concept and scope of investment for a Metropolitan Planning Organization's transportation plan. The MIS is not usually a separate stand-alone document.

Major ITS Project – Any ITS project that implements part of a regional ITS initiative that is multi-jurisdictional, multi-modal, or otherwise affects regional integration of ITS systems.

Major Project – A project that significantly changes the function of the facility being improved, requires the acquisition of significant amounts of right-of-way, has a significant impact on abutting property, has significant changes in travel patterns, or has significant social, economic, or environmental effects. A Major Project will not follow "Time Saving Procedures." A Major Project will require a public hearing or the opportunity for a public hearing and Location and Design Approval.

Management Directed Let Date – The proposed let date assigned by the Director of Program Delivery for a preconstruction project. Also see Let Date.

Management Directed Right-of-Way Date – The proposed right of way authorization date.

Metropolitan Planning Organization (MPO) – A local government agency in charge of the proper transportation planning of a metropolitan area. The MPO performs its mission through a series of committees composed of local professional planning staffs, GDOT planning and design staffs (in cases where the MPO crosses state lines, the DOT staffs of the affected states), local elected officials (both city and county), and public input.

Minor Project – A project that does not require a significant amount of right-of-way and whose environmental analysis can be accomplished with a "Categorical Exclusion." Examples of projects that are generally considered minor are Bike/Pedestrian projects, TEA and Ride Sharing projects, Transit enhancements, Transportation studies using capital funds, Turn lane, Intersection improvements, Signal projects, Bridge rehabilitation, Bridge replacements, Signage, Lighting, Landscaping, Traffic barriers, Guardrail projects, Greenway projects, Recreational trail projects, and Maintenance resurfacing projects less than \$1million.

National Environmental Policy Act of 1969 (NEPA) – A Federal law requiring compliance with a variety of Federal environmental laws to insure that information on environmental impacts of any Federally funded action is available to public officials and citizens before decisions are made and before actions are taken.

National Highway System (NHS) –The NHS is an interconnected system of principal arterial routes which serve major population centers, international border crossings, ports, airports, public transportation facilities, intermodal transportation facilities, major travel destinations, national defense requirements and interstate/interregional travel. As of January 1999, the NHS contained 161,653 miles of highways, including all Interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and major highway connectors.

Need and Purpose – A “Need and Purpose” statement should identify and describe the proposed action and the transportation problem(s) or other needs, which the action is intended to address (40 CFR 1502.13). This statement should clearly demonstrate that a “need” exists and should define the “need” in terms understandable to the general public.

Overhead Subsurface Utility Engineering (SUE) Investigations – Employ an established engineering technology that can provide precise horizontal and vertical locations of underground and overhead utilities to produce an accurate depiction of the underground and overhead utility infrastructure. The techniques of SUE may be appropriate for certain Department projects where enhanced Quality Levels are determined to be essential for the design analysis of road improvement and widening projects. Please refer to the State Utilities Office website for additional information regarding SUE and how it is applied to Department projects.

Pavement Type Selection – a process where the most effective pavement type is determined for a specific project or corridor and includes a Life Cycle Cost Analysis for comparison of alternative pavement types. The GDOT Asphalt Pavement Section Guidelines is located at: <http://www.dot.ga.gov/doingbusiness/Materials/Documents/GeorgiaasphaltpavementresurfacingguideMay06.pdf>.

Phase Leader – Functional office that provides a specialized task.

Plans, Specifications, and Estimates (PS&E) – A plan, specification and estimate review performed on all Full Oversight Projects by the FHWA. The Office of Construction Bidding Administration will prepare the PS&E package with input from the Project Manager.

Plan Presentation Guide (PPG) – A guide that sets forth the criteria for the electronic appearance and format of plans. These criteria establish, define, and clarify procedures and standards for plans to be used by the Department. These criteria are not intended to establish design processes; rather, they are guidelines to assure that all drawings have a uniform appearance and include all pertinent information, avoid unnecessary information, and reflect high quality workmanship.

See Plan Presentation Guide Web Site located at:

[http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/Plan/Plan%20Presentation%20Guide\\_V01\\_10.pdf](http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/Plan/Plan%20Presentation%20Guide_V01_10.pdf)

Practical Alternatives Report (PAR) – A report prepared for those projects that require an individual U. S. Army Corps of Engineers permit providing an analysis of alternatives to avoid and to minimize harm to jurisdictional waters of the US.

Preliminary Field Plan Review (PFPR) – A field review of the preliminary plans and draft special provisions conducted by or for the Office of Engineering Services prior to the development and approval of right-of-way plans. This review occurs after the approval of the environmental document. The emphasis of this review should be the coordination of right-of-way, utilities, bridges and walls, constructability, signs and signals, drainage, and appropriate environmental (including erosion control). For Major Projects, the approval of the Preliminary Field Plan Review (PFPR) Report defines the beginning of Final Design and the completion of the right-of-way plans.

Prepare Plans for Shelf – Projects may be noted as prepare plans for shelf if funds are not available and the Chief Engineer or Director of Program Delivery have decided to move forward with the project.

Project Framework Agreement (PFA) - A binding legal agreement between the Department and the Local Government which contains straightforward project phase participation commitments. See POLICIES AND PROCEDURES 7120-3.

Project Justification – An explanation of the alternatives that were evaluated during the planning process, an explanation of logical termini, and a statement of why the project is needed.

Project Management System – Currently, TPro, a project database used by the Department as a data management tool for storing, updating, and reporting data in the Department's computer system. Department managers use reports from this database for reviewing and evaluating plan development progress and in making program decisions.

Project Manager – The person in responsible charge of a project who makes the day-to-day scope, schedule and budget decisions and is responsible for steering, coordinating, and managing a project through the Plan Development Process and through the construction phase. The Project Manager must possess and maintain excellent communications and strong organizational skills to ensure projects are ready-to-let on time and constructed on time.

Project Nomination Review Committee (PNRC) – The committee, chaired by the State Transportation Planning Administrator, appointed to review projects nominated for inclusion into

the Department's Construction Work Program. The committee consists of the Director of Construction, Director of Preconstruction, Director of Operations, Director of Program Delivery, State Transportation Planning Administrator, Director of Field Districts, and as a non-voting member, the Chief Engineer. This committee was formerly called State Highway Improvement Plan (SHIP). See POLICIES AND PROCEDURES 7120-4.

Project Schedule – The project schedule includes the planned start and finish dates, based on confirmed assignments and required resources, for each detail activity necessary for the completion of the Plan Development Process. The approved project schedule, called the schedule baseline, provides the basis for measuring and reporting schedule performance.

Project Team – Is composed of individuals assigned to the Project Manager that possess the various skills necessary to complete the development of a project from concept through final acceptance.

Property Information Form (PIF) – A document submitted to the Historic Preservation Division (HPD) and the Federal Highway Administration (FHWA) which discusses the qualities and characteristics of a historic property and is used to determine whether a property not already listed in the National Register of Historic Places would qualify for listing. This document serves as the "Request for Determination of Eligibility" for historic properties.

Protective Buy – To purchase right of way in advance to protect the proposed roadway corridor of a programmed project against new development, thereby reducing future right of way and project costs.

#### Quality Control and Quality Assurance (QC/QA)

Quality Control (QC): Refers to the daily processes/practices/checks in place to control the quality of the engineering, design, plans and cost estimates as they are being developed. This includes such activities as providing constant training and supervision of subordinate design engineers by the Lead Engineer and Project Manager, providing clear decisions and directions to subordinate design engineers, the immediate review of completed activities for accuracy, completeness, and attention to detail, and immediate and accurate documentation of all decisions, assumptions, and recommendations.

Quality Assurance (QA): Refers to the formal high-level review of the project plans and cost estimates by an experienced engineering manager at strategic points in the plan development process to ensure and certify that the plans and cost estimates meet established quality standards and provide for appropriate flexibility and cost savings. Essentially, quality assurance is the process of enforcing quality control standards at strategic points in project development. Quality Assurance is the responsibility of the Office Head and the Assistant Office Head. A series of QA Reviews are



conducted by the Assistant Office Head during project development with the support of the Project Manager, consultant (if applicable), the Lead Engineer, and appropriate members of the Project Team. At a minimum, a QA Review is required at the following milestones/strategic points in the plan development process.

<http://topps/homeoffs/preconstruction/roaddesign/Documents/PDF/Road%20Design%20QCQA%20Process.pdf>

Regional Transportation Plan (RTP) – A long range, multi-modal plan for defined geographic regions in the state. The RTP addresses the region’s transportation needs over a twenty (20) year period and is developed in cooperation with local, state and Federal planning partners and the general public. Federal regulations require regional transportation plans to ensure a transportation system that serves economic, mobility and accessibility needs, and in non-attainment areas to conform to federal air standards. A RTP must include a financial plan demonstrating the consistency of proposed transportation investments with existing and projected sources of revenue. The RTP must be updated at least every three years.

Request for Determination of Eligibility (DOE) – Refers to a document submitted to the Historic Preservation Division (HPD) of the Georgia Department of Natural Resources and the FHWA which discusses the qualities and characteristics of a historic property or site and is used to determine whether a site not already listed in the National Register of Historic Places would qualify for listing and thus require protection under Section 4(f) and consideration under Section 106. For historic properties, a Property Information Form (PIF) satisfies the requirement for a DOE.

R.O.A.D.S. (Repository for Online Access to Documentation and Standards) – Refers to the centrally located, online access to GDOT design-related documents, standards, and applications. Included on the new web page: NEW GDOT Design Policy and Procedure Manuals, Electronic Data Guidelines, Plan Presentation Guide, Environmental Procedures Manual, Software specific files and documentation, etc.

Schedule Review Committee – A committee chaired by the Director of Program Delivery that reviews and approves all submitted project schedules. Other members of the committee consist of the Preconstruction Office Heads, the Program Control Office Head, and the State Scheduling Engineer.

Section 404 Permit – Authorization required by provisions of the Clean Water Act of 1977 before fill can be placed or dredging can take place in waters of the United States (includes wetlands, streams and open waters).

Section 404 (b)(1) Guidelines – Guidelines used to evaluate proposed discharges of dredged or fill material in waters of the United States as required by provisions of Section 404 of the Clean Water Act of 1977.

Section 4(f) – A provision of the USDOT Act of 1966 which requires that before land from a significant publicly owned park, recreation area, national wildlife refuge or any eligible historic site can be converted to a transportation use it must be demonstrated that there is no feasible and prudent alternative to this use and that the project includes all possible planning to minimize harm.

Section 6(f) – A provision of the Land and Water Conservation Fund Act which requires that before land from a site which was purchased or improved with funds administered under this act can be converted to another use, the Secretary of the Interior must approve the conversion and replacement land must be provided.

Section 7 – A provision of the Endangered Species Act that requires the consideration of project impacts on federally threatened and endangered species and their designated critical habitat.

Section 106 – Refers to that section of the National Historic Preservation Act of 1966 which requires that with all Federal undertakings, consideration be given to the effects and the minimization of harm to historic resources (architectural and archaeological) that are listed in or eligible for listing in the National Register of Historic Places.

Social, Economic, and Environmental Effects (SEE) – Direct and indirect impacts to the community, highway users, and the environment.

Specific Activity Agreement (SAA) - A binding legal agreement between the Department and the Local Government that contains current phase cost estimates and project activity deliverable schedules and may have superseded PFA commitments due to real site condition changes or STIP commitment/schedule changes. See POLICIES AND PROCEDURES 7120-3.

State Highway Improvement Plan (SHIP) Committee – See Project Nomination Review Committee (PNRC). The SHIP Committee no longer exists.

State Implementation Plan (SIP) – The SIP is prepared by the state designated agency (Environmental Protection Division [EPD] of the Department of Natural Resources) containing procedures to monitor, control, maintain and enforce compliance with National Ambient Air Quality Standards (NAAQS). Transportation plans must be in conformity with air quality goals established in the SIP. Conformity with the SIP is a condition of Federal funding of transportation capacity projects in non-attainment areas.

State Transportation Improvement Program (STIP) – The State Transportation Improvement Program includes a list of federally and state funded priority transportation project elements (Preliminary Engineering, Right-of-Way, or Construction) proposed to be carried out in the current and next two years (a 3 year plan). It is financially constrained (dollar value of projects programmed is equal to the anticipated revenues per program year), and includes projects consistent with the Statewide Transportation Plan. The STIP is approved by the FHWA and Federal Transit Administration (FTA) and includes all TIP projects as adopted by the Metropolitan Planning Organizations (MPO) and approved by the Governor.

Subject Matter Expert (SME) - The individual who exhibits the highest level of expertise in performing a specialized job, task, or skill within the organization; anyone with in-depth knowledge of the subject.

Systems Engineer – A person having responsibility for overseeing the Systems Engineering process required by ITS Rule 940.

Systems Engineering – An approach to building systems that enhances the quality of the end result.

Team Leader – The individual appointed by the Project Manager and charged with the responsibility to coordinate the various activities of the Plan Development Process such as a concept meeting.

Time Saving Procedures – Procedures by which a project is advanced to the right-of-way authorization stage, eliminating the public hearing requirements and the approval of a location and design report. Time Saving Procedures are appropriate for those projects for which the right-of-way requirements are not significant and a “Categorical Exclusion” is the appropriate level of environmental analysis. A statement of the appropriateness of time saving procedures will be addressed in the project Concept Report.

TOPPS - Transportation Online Policy and Procedure System. Now GDOT Policy and Procedures.

TPro – The current project management, reporting, and scheduling system portion of the Transportation Information System (TIS) used by GDOT to effectively utilize personnel, fiscal and material resources. TPro is sometimes referred to as the “Project Management System.”

Traffic Engineering Report - A document based on a detailed evaluation and study of an ‘at-grade’ intersection based on current traffic volumes, existing lane configurations, identification of problems associated with traffic control, road geometry (turn lanes), sight distance issues, and accident data evaluation. The report will include a signal warrants analysis and concept signal

design (if warranted). Existing condition sketches and figures for any proposed modifications will also be included.

Transportation Explorer (TREX) – A web application that connects to the following GDOT databases: Transportation Projects (TPro), Bridge Inventory Maintenance and Management Systems (BIMMS), FleetAnywhere Traffic Interruptions Reports (TIR), Roadway Characteristics (RCFILE), Geographic Information System (GIS), and Design Store. These databases contain maps, reports, photos, and plans all accessible through TREX. All of the information shown in TREX is directly from queries to the databases in real-time.

Transportation Improvement Program (TIP) – A short term document covering at least 3 years, the current year plus the next 2 years in the urbanized areas of the State. It is financially constrained, conforming to the State Implementation Plan (SIP) in air quality non-attainment areas and updated at least every 2 years. The TIP includes the list of priority project elements (Preliminary Engineering [PE], Right-of-Way [R/W], and Construction) to be carried out in each program year. Projects included in the TIP must be consistent with the Transportation Plan adopted by the Metropolitan Planning Organization (MPO). The Governor approves each TIP.

Transportation Reporting, Analysis and Querying Systems (TRAQS) – A reporting and performance management system that allows you to view and analyze active system reports and performance measure data.

Turnkey Project – A term which describes the timely prosecution of preliminary engineering activities by a professional design/engineering company, to produce a set of final construction plans and contract documents for letting by the Department.

Utility - All privately, publicly, or cooperatively owned water distribution and sanitary sewer facilities, and systems for producing, transmitting or distributing communication, cable television, power, electricity, light, heat, gas, oil, crude products, steam, waste and storm water not connected with highway drainage, including river gauges, fire and police signals, traffic control devices (including Intelligent Transportation Systems), and street lighting systems, which directly or indirectly serve the public or any part thereof. The term "utility" may also be used to refer to the owner of any above described utility or utility facility. Please note that a utility owner may include an individual owning property on both sides of a particular roadway with a water service, irrigation line or communication cable crossing the road. They may not be known to the Utilities Protection Center or utility office. Therefore, the District Utilities Engineer, right-of way appraiser and others attending the field reviews should look for this situation because the individual lines are often overlooked leading to delays on construction. Information should be forwarded to the District Utilities Engineer for coordination.

Value Engineering (VE) – The systematic application of recognized techniques by an independent multi-disciplined team to identify the function of a product or service, establish a worth for that function, generate alternatives through the use of creative thinking, and provide the needed functions to accomplish the original purpose of the project, reliably, and at the lowest life-cycle cost without sacrificing safety, necessary quality, and environmental attributes of the project.”

See POLICIES AND PROCEDURES 2450-1.

## CHAPTER 3: OVERVIEW

The goal of the Project Manager's team shall be to produce plans and specifications that are of high quality and contain "ZERO DEFECTS." Properly following the Plan Development Process (PDP), using "The Plan Presentation Guide," checklists and frequent checking of work product will improve coordination and minimize production costs while reducing technical problems, utility delays, construction supplemental agreements, and the occurrence of liability claims. The maximum efficiency is achieved when errors are prevented during production instead of being caught during review, in other words - Eliminate REWORK!

Project quality is built-in, not added on. Quality is the direct result of careful, properly sequenced production, and continuous production checking of each work element by the Phase Leader.

The Plan Development Process is for the most part a "Linear Process." Care must be exercised throughout the process to ensure the proper level of public participation is maintained, and in the case of Federally funded projects or projects that may be converted to Federal funds, the future use of Federal funds are not jeopardized. The National Environmental Policy Act (NEPA) requires the public disclosure of environmental impacts before project decisions are made. Thus the environmental process is an integral part of the decision making. Environmental resources must be identified early and given consideration throughout project development. According to 23CFR paragraph 771.113, final design activities, property acquisition (with the exception of hardship and protective buying), purchase of construction materials or rolling stock, or project construction shall not proceed until the following have been completed:

- i. The action has been classified as a Categorical Exclusion (CE), or
- ii. A Finding of No Significant Impact (FONSI) for an Environmental Assessment document has been approved, or
- iii. A Final Environmental Impact Statement (FEIS) has been approved and available for the prescribed period of time and a Record of Decision (ROD) has been signed.

Note:

1. No final design decisions are to be made nor are any final construction plans or final right-of-way plans to be completed or approved prior to completion of the appropriate public involvement process including approval of the final environmental document.
2. No contact initiated by the Department or a Department representative to a property owner for the purpose of purchasing their property shall be made until final right-of-way plans are approved and the final environmental document has been approved or reevaluated as appropriate.

In rare and unusual circumstances, there is an exception to these rules called “Protective Buying or Advanced Acquisition.” This request is reviewed and approved as appropriate on a case-by-case basis following all Federal and State guidelines.

The Federal Highway Administration (FHWA) will have Full Oversight for all projects as described in the Georgia Federal-Aid Stewardship and Oversight Agreement located at:

<http://mygdot/info/pap/Forms/2410-1.pdf>

In addition to the above, the FHWA has retained oversight on the National Highway System (NHS) for design standards. The FHWA also has approval authority of the environmental documents for all federally funded projects.

Intelligent Transportation System (ITS) projects must meet the requirements of 23 CFR Part 940 (ITS Rule 940), or the FTA ITS Regulation, as defined in Chapter 2, to identify Systems Engineering practices. The purpose of this mandate is to reduce project risk, control costs and schedules, satisfy users’ needs, improve system quality, and obtain FHWA/FTA approval for all federally funded ITS projects.

The FHWA shall be consulted to determine oversight responsibility on NHS and Non-NHS projects that include unusual hydraulic structures, unusual geo-technical features, vehicular and drainage tunnels, moveable bridges, or bridges with a total deck area over 125,000 square feet.

The Federal Transit Administration (FTA), will have Full Oversight for all Commuter Rail Projects (similar to the Full Oversight responsibilities the FHWA has retained on the Interstate System) including approval of environmental documents.

In those Non-attainment areas for air quality where the Georgia Regional Transportation Authority (GRTA) has been given authority over transportation plan development, the Project Manager will ensure they are involved in the Concept Stage of project development.

It is imperative that the Project Manager ensures that current and accurate information and status is entered into the project management system on a bi-weekly basis if not more often. Numerous GDOT personnel throughout the State rely on this information in scheduling their work activities and delivering project information on a timely basis. The Department’s management also relies on this information in making decisions on program delivery, discussing the project status with the public and elected officials, and in making schedule commitments.

The PDP will be followed for:

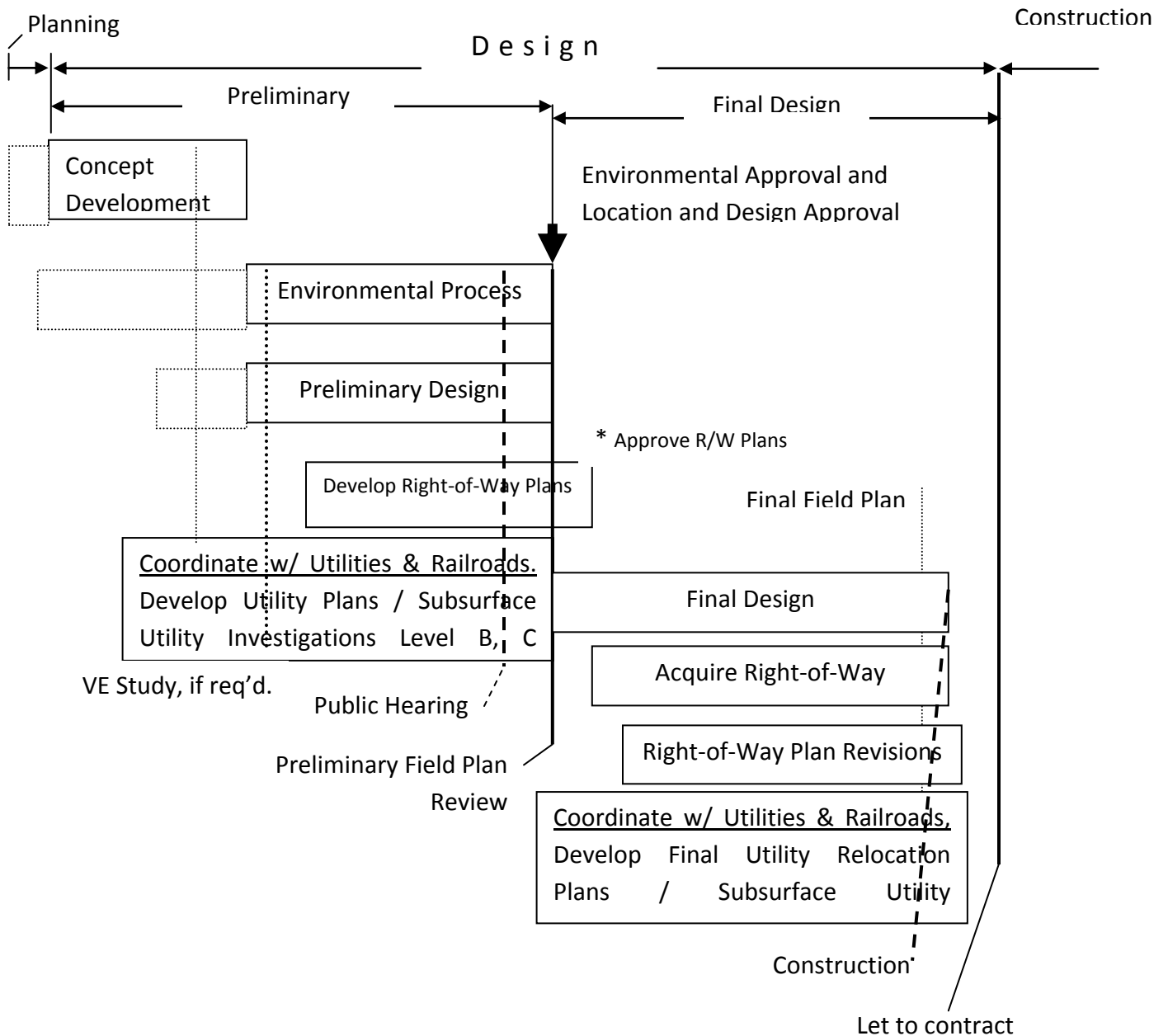
- All construction and right-of-way projects prepared by or for GDOT where GDOT is proposed to let the project to construction.
- All construction projects that require the purchase of right-of-way.
- All construction or right-of-way projects proposed to use Federal funds for construction.
- All construction projects prepared by the Office of Maintenance requiring full size plans.
- All ITS projects.
- All major construction projects prepared by or for the Office of State Aid as set forth in Project Management Agreements.
- All projects as required by Project Framework Agreements. (See POLICIES AND PROCEDURES 7120-3)

All concept reports, preliminary and final right-of-way plans, preliminary and final construction plans, and construction documents prepared by or for the Department will be in “English” Units.

As an introduction to the PDP, the following chart is intended to show a very basic, conceptualized Plan Development Process.



## Generalized Plan Development Process Flow



## CHAPTER 4: PROJECT PROGRAMMING and SCHEDULING

### Project Identification

During the project planning stage, the Department monitors the existing transportation systems and proposes improvements, in cooperation with local agencies and planning organizations, for inclusion in the Department's Work Program. Any office of the Department, the Commissioner, Deputy Commissioner, Chief Engineer and Division Directors may identify new projects for inclusion in the Work Program. Projects proposed by these sources are generally brought before the Project Nomination Review Committee (PNRC) for action. Specifically excluded from the PNRC process are:

- Routine maintenance projects that are funded through lump sum maintenance funds, Highway safety and railroad crossing safety projects where the conditions meet the criteria to be submitted for programming by the State Traffic Safety Engineer.
- Bridge replacement and rehabilitation projects where the bridge condition meets the criteria to be submitted for programming by the State Bridge Maintenance Engineer or the Office of State Aid.
- Projects identified through the Metropolitan Planning Organization (MPO) planning process.
- Transportation enhancement projects.
- Transit projects funded under Title III of 23 CFR.
- Force Account projects
- Lighting projects

Offices/Sponsors submitting proposed projects to the PNRC for inclusion in the Construction Work Program, (CWP), will include a draft "Project Justification" giving the identified need and a proposal to meet that need. For projects identified through the MPO planning process, the "Project Justification" will be submitted through the Office of Planning. The "Project Justification" is not intended to be the "Need and Purpose Statement" that will be developed later as part of the project's environmental evaluation, but a thoughtful presentation to provide the Office/Sponsor's insight into the proposal for consideration by the PNRC. A project's logical termini will be considered as part of the "Project Justification". In addition, the Office/Sponsor shall also provide the project cost estimates for Construction, Right of Way and Utilities. The Offices/Sponsors are required to provide the basis and justification for the cost estimates. The time and effort utilized by Offices/Sponsors to develop a well-prepared "Project Justification" will:

- Give the Project Manager a better idea of the proposed scope, which should make for a better design.
- Provide better identification of environmental scope up front.
- Provide better information with which to prioritize projects.

- Prevent errors in programming of projects.
- Improve connectivity between “Need and Purpose” and concept.
- Ensure identification of logical termini earlier in the process.

After recommendation by the PNRC and approval by the Chief Engineer, proposed projects shall be added to the Department's CWP or the Long Range Program in the manner specified by Board Policy. The PNRC may also assign the project to offices for additional study, or reject the project. See POLICIES AND PROCEDURES 7120-4 for a more detailed discussion on the requirements for project submissions to the PNRC.

## Programming

All projects, except maintenance and safety, are approved by the Transportation Board before inclusion in the Department's CWP. The information gathered by the Offices/Sponsors should be submitted with the project when it is added to the CWP and included in the project file maintained by the Office of Financial Management (OFM). The OFM is responsible for establishing the new project record in the Department's Project Management System.

Projects are programmed by three methods:

1. Projects are added to the six-year CWP with one or more of the programming elements (Scoping [SCP], Preliminary Engineering [PE], Right-of-Way Acquisition [ROW], or Construction [CST]) programmed for a specific fiscal year.
2. Projects can be added to the CWP without action of the GDOT Board. These projects are usually maintenance, safety related, or projects split from those projects already in the CWP.
3. Project elements added to the Long Range Program, beyond the current sixth (6<sup>th</sup>) year of the CWP, will not show fiscal years for those elements, SCP, PE, ROW, or CST, identified as Long Range (LR). Project elements shown in LR indicate the Transportation Board has not approved funding for those elements.

## Schedule Development

The timely development of a schedule for a programmed project is highly important. The Department is a complex organization and many project related tasks are performed by persons not directly responsible or accountable to the Project Manager or even within the employment of the Department. The complexity of project development and the numbers of people involved in the process make coordination and anticipation essential for each project task, especially critical tasks.

A project schedule shall comply with the Plan Development Process (PDP) and shall comply with the programmed fiscal years for the authorization of funds for PE, ROW acquisition, and CST. The

Director of Program Delivery and the Chief Engineer shall approve all exceptions to programmed fiscal years. The Director of Program Delivery will then request the Office of Financial Management to amend the fiscal years in the CWP and State Transportation Improvement Program (STIP).

Sixty (60) days prior to DOT Board approval date, the OFM will provide the Director of Program Delivery with the proposed project additions to the CWP. Within 10 working days of receiving this list, the Director of Program Delivery shall assign the project to a Program Manager or District. Within 10 working days after the Commissioner authorizes the addition of a project to the Long Range Program, the appropriate office shall assign a Project Manager for said project.

Within twenty (20) calendar days of the assignment of a Project Manager, the State Scheduling Engineer shall, after consulting with the Project Manager, Design Offices, the Office of Environment/Location, and the Office of Right-of-Way, submit a schedule to the Director of Program Delivery (Schedule Version 50 in TPro). The Chief Engineer will approve this schedule and the State Scheduling Engineer will notify the Program Control Administrator, the Project Manager, Design Offices, the Office of Bridge Design, Office of Environment/Location, Office of Right-of-Way, and any other office with significant work activities in the schedule such as the Office of Utilities and Office of Traffic Operations, that the schedule is available for review.

No schedule shall be prepared for projects with all elements programmed in LR unless directed by the Director of Program Delivery. The schedule will then be prepared in accordance with this procedure.

Once each calendar month, the Schedule Review Committee shall convene to review the schedules submitted to the Director of Program Delivery. The Schedule Review Committee may recommend approval of a schedule, approval of a schedule with modifications, or the rejection of a schedule.

The Schedule Review Committee shall consist of:

- The Director of Program Delivery, Chairman
- The Program Control Administrator, Vice-Chairperson
- The Program Delivery Office Heads
- The State Scheduling Engineer
- The Preconstruction Office Heads

The Director of Program Delivery will immediately review the Committee's recommendations and forward them to the Chief Engineer for approval, disapproval, or modification.

Immediately after the approval of the Committee's actions, the approved schedules shall be entered into the current schedule, Version 0 and Baseline Version 99, in TPro. An initial

Management Directed Let Date and a Management Directed ROW Authorization Date will also be entered in TPro. Those schedules not approved shall be returned to the District Planning and Programming Engineer with comments from the State Scheduling Engineer and a corrected schedule shall be developed and resubmitted in accordance with the instructions of the Schedule Review Committee.

## Management of Long Range Projects

When projects are added or amended to the Long Range Program, and PE is not active or proposed to begin within three years, the Program Control Administrator will automatically assign those projects to the District Office for management. In some cases, depending upon project location and complexity, the Program Control Administrator may choose to assign a LR project to one of the Preconstruction design offices. Annually, the District Offices will review the LR projects in their District and submit their priorities and recommendations for advancement into the STIP or CWP to the Program Control Administrator. This review should occur in the first quarter of the fiscal year in preparation for the annual update of the STIP and CWP. When the PE is proposed for addition to the STIP, the Program Control Administrator will determine which office will manage the active project and reassign the project as necessary.

## Monitoring Schedules

- **Project Manager Responsibilities:**
  - Every Project Manager or their designated representative of a scheduled task or event will constantly review the project schedule and report the progress of task completion in the Department's project management system. The Project Manager will ensure the completion of an event is recorded in the project management system within five days.
  - If the Project Manager determines the actual performance of activities is falling behind the project schedule, the Project Manager shall redirect the necessary resources under their control to complete the lagging task as scheduled.
  - The Project Manager will analyze the problems causing the delay and document a specific course of action to get the project back on schedule. The Project Managers will quarterly produce a list of projects that have issues beyond their control. The Project Manager will submit this list of problem projects to their Office Head for discussion and possible elevation to the Director of Program Delivery.
  - For more information on Project Manager responsibilities, see Chapter 10.

- **Resource Planning:**

- The goal of Resource Planning is to gain a macro view of how resources are being used across the organization and to maintain resource optimization.
- Project Manager will collaborate with the Office Head to determine consultant needs for projects.
- The Statewide Resource Planner will consolidate all division-level consultant needs to develop a GDOT-wide Consultant Acquisition Plan (CAP). The CAP will reflect anticipated consultant needs for the next three fiscal years.
- GDOT Leadership must approve the final CAP before it can be made public. Any unplanned consultant request not listed in the approved CAP must be approved by the Division Director and a GDOT Executive. If the unplanned consultant need is not approved at the time of request, the need is noted and added to a future plan.
- Resource Planning will be an annual process that aligns with other annual planning and programming activities.

- **District Preconstruction Review Meeting:**

- Bi-annually, the State Scheduling Engineer shall schedule in each District Office, at the convenience of the Director of Program Delivery and the District Engineer, a district project review meeting to review the status of all projects in the CWP, including problem projects, in that District. It is very desirable to hold one of these meetings in September of each year to provide accurate schedule and status information for input into the preparation of the draft STIP update that begins within GDOT in October.
- Two weeks prior to the district project review meeting, the District Planning and Programming Engineer and the Project Managers shall enter into the program management system any comments regarding any project activity that is incomplete, late, or that may delay or prohibit a project being let to construction as currently scheduled. These comments shall state succinctly the status of the work activity, the actions underway to complete the activity, any help or resources needed to complete the activity, and the expected completion date of the activity.

- **Revision of Project Schedules**

- If a project must be delayed because of inadequate resources or other problems, the State Scheduling Engineer shall request the Project Manager to submit a revised schedule. The procedure for submission, review, and approval shall be as previously outlined for a new schedule.
- If schedule revisions require changes be made in the CWP or the STIP, the Director of Program Delivery and the Chief Engineer shall approve all exceptions to programmed fiscal years. The Director of Program Delivery will then request the Office of Financial Management to amend the fiscal years in the CWP and STIP.

- **Let Status Review**

- By the tenth day preceding the Preconstruction Let Status Review Committee meeting (Let Status Meeting), the State Scheduling Engineer and the Project Manager shall enter into the program management system any comments regarding any project activity that is incomplete, late, or that may delay or prohibit a project being let to construction as currently scheduled.
- Each participant shall prepare a report for their use at the Let Status Meeting for each project in the current letting and subsequent six (6) lettings. Each participant will be prepared to thoroughly discuss clearly and precisely the status of each critical activity, the actions underway by the task manager to complete the activity, and the expected completion date.

- **“HOLD” Status**

- A project may be placed on "HOLD" status by the Director of Program Delivery, the Commissioner, Deputy Commissioner, or the Chief Engineer.
- A project will be removed from "HOLD" status in like manner.
- When a project is placed on "HOLD" status, all work activity on the project is suspended. When the project is removed from "HOLD" status, the CWP and the STIP shall be amended by request of the Director of Program Delivery. The State Scheduling Engineer shall request the Project Manager to submit a revised project schedule that considers any required updates of previous work and/or the current status of the project.
- HOLD status is temporary and will only be used in extreme cases and for short durations of time. Projects on HOLD will be reviewed by the Director of Program Delivery annually to determine if they should be restored to active status or recommended for removal from the program.
- The State Scheduling Engineer shall be notified immediately of any project being placed on HOLD and will be responsible for suspending the remaining scheduled activities. If a project is restored to active status after being on HOLD, the State Scheduling Engineer will have the project rescheduled.
- In TPro a field called "Letting Responsibility" is used to indicate if a project is local let, force account, GDOT let, or NONE. This field will also be used to note if a project has “HOLD” status.

- **“SHELF” Status**

- The Director of Program Delivery may place a project on "SHELF" status.
- The Director of Program Delivery, the Chief Engineer, or the Commissioner may remove a project from "SHELF" status.

- A project may be placed on "SHELF" status when all work activity on the project has been completed (environmental cleared, right-of-way purchased, construction plans complete, and all agreements and permits are in-hand) and it cannot be let at the present time for some reason or has been let and all bids were rejected.
  - When the project is removed from "SHELF" status, the CWP and the STIP may need to be revised or amended. If required, the State Scheduling Engineer will request the Project Manager to submit a revised project schedule that considers any required updates of previous work and shall coordinate with the Office of Planning and OFM to ensure all planning and programming updates are performed.
  - The State Scheduling Engineer shall be notified immediately of any project being removed from "SHELF" status.
  - In TPro a field called "Letting Responsibility" is used to indicate if a project is local let, force account, GDOT let, or NONE. This field will also be used to note if a project has "SHELF" status.
- **Prepare Plans for the Shelf**
    - The Director of Program Delivery may place designate a project "Prepare Plans for the shelf" (PSF) status.
    - The Director of Program Delivery, Chief Engineer, or the Commissioner may remove a project from PSF status.
    - A project may be designated as PSF status when a decision is made to continue working on the project in preparation to move to "SHELF" status.
    - PSF is an indicator that funds are not currently available for the phase to be authorized or Director of Program Delivery, Chief Engineer, or the Commissioner request that the Project Manager continue working on the project.
    - PSF projects will be moved to SHELF status once it meets the criteria for a shelf project.
    - In TPro a field called "Letting Responsibility" is used to indicate if a project s local let, force account, GDOT let, or NONE. This field will also be used to note if a project has "PSF" status.

## Removing Project from Program

Projects may be cancelled from the CWP by submitting a letter to the Program Control Administrator outlining reasons why the project is no longer needed, if the project sponsor is not GDOT an attachment from sponsor should be attached. The Program Control Administrator will verify with the Office of Planning and submit a formal request to the OFM to cancel the project.





## CHAPTER 5: CONCEPT STAGE

### General

On all federally funded projects, the preliminary engineering funds shall be authorized prior to the scheduled date for beginning concept studies. The Chief Engineer may authorize the use of State funds for an early start. The Project Manager, through the Office Head, will request in writing, to the Chief Engineer, authority to use State funds for early studies or preliminary design. Unless approved by the Chief Engineer, no work shall be done without authorization.

The concept stage should not be scheduled or started too far in advance of the preliminary design. The benefits of this action are to balance the number of concepts prepared each year, reduce the time between concept and the beginning of preliminary design, allow for more continuous work on a project, and reduce the chances the concept will become outdated.

The FHWA will be invited to attend and participate in all significant meetings, including the Initial Concept Meeting, the Concept Meeting, and any follow-up Concept Meetings on all projects for which they have Full Oversight responsibilities or questions about logical termini exists.

The Georgia Regional Transportation Authority (GRTA) will be invited to attend and participate in all Initial Concept Meetings, the Concept Meetings, and any follow-up Concept Meetings on all projects for which they have oversight responsibilities in non-attainment areas for air quality.

### Objectives

The objective of the Concept Stage is to develop a Concept Report that will describe a recommended project “footprint” including logical termini. A project recommendation will be made for a “Build Alternative” or “No-Build Alternative” that addresses the “Need and Purpose” of the programmed project after traffic and operational studies, accident analysis, determination of project deficiencies, planning requirements, environmental screening, study of alternatives, permit requirements, social and economic considerations, utility considerations, right-of-way impacts, benefit to cost analysis and other analyses have been made.

On all federally funded Major Intelligent Transportation System (ITS) Projects, a Concept of Operations shall be developed. If a Concept of Operations already exists, it shall be explicitly referenced in the Concept Report. The Concept of Operations will verify that the project is consistent with any governing ITS architecture, and that all intended users of the ITS system are identified, along with how each intended user will interact with the system. If the project is an extension or expansion of an existing system, the Concept of Operations will identify any differences

from the current system and its operations. Finally, the Concept of Operations should document that all intended users of the system within GDOT, as well as other state and local agencies that might be affected by the system, understand and accept their role in system operation and management. The Concept of Operations for an ITS project will implicitly address the “Need and Purpose” statement.

Prior to the beginning of the concept stage, the Project Manager, as assigned by the Director of Program Delivery, will request that the Office of Planning develop a preliminary “Need and Purpose” document for the proposed project. This section should clearly demonstrate that a "Need" exists and should define the "Need" in terms understandable to the general public. It should also address logical termini requirements that determine and support project limits. This statement should identify the critical issues as well as any secondary benefits. Data and discussion must be provided to support each conclusion. This discussion should clearly describe the problems that the proposed action is to correct. It will form the basis of the Alternatives discussion in the "Alternatives" section of the environmental document, including the "No build" discussion, and assist with the identification of reasonable alternatives and the selection of the preferred alternative.

## Project Design Data Book

At the onset of the Concept Development, the Design Phase Leader shall begin preparation of a Project Design Data Book. The Project Design Data Book shall be updated and maintained throughout the PE process and shall define the proposed project design parameters for each roadway or transportation element and can serve as a continuity resource book/abbreviated historical record if for some reason the project gets delayed or there is a change in Design Phase Leader or staff. The design parameters shall be based on information provided within all Design Policies adopted by GDOT (link to adopted policies such as AASHTO, Design Policy, Drainage Manual, etc.). The Project Design Data Book is not intended to be the project’s correspondence file. The Project Concept Report will form the basis of the project data book.

At a minimum, the data book should contain the following.

- For each roadway:
  - Name
  - Classification (Functional and Design)
  - Typical section
  - Maximum horizontal curve radius and length
  - Maximum Grade
  - Maximum Superelevation (SE)
  - Access Control

- Design Speed
- Minimum width of right-of-way
- Clear zone requirements
- Horizontal and vertical clearances
- Preliminary sketch of each roadway intersection showing basic laneage, auxiliary and turn lanes, and lengths of turn lanes and tapers
- Interchange and median openings showing distance between signals
- For each bridge, existing and proposed:
  - Traffic capacity analysis for the “Build Alternative” and “No-Build Alternatives,” only required if a standalone traffic study is not completed
  - Preliminary sketch or description of bridges
  - Bridge typical section
  - Horizontal and vertical clearances
  - Approximate span requirements
- Preliminary identified wall locations, lengths and heights
- Drainage criteria for the major types of systems, rivers and streams, cross drains, longitudinal drains, and low point and normal catch basins
- Storm frequency
- Environmental issues, mitigation of adverse impacts, and public involvement
  - Anticipated level of NEPA document
  - Location of jurisdictional waters of the US
    - Wetlands
    - Streams and their buffers
    - Open waters & their buffers
- Location of Section 4(f) resources
- National Register eligible historic properties
- Publicly owned parks and recreation areas
- Publicly owned wildlife and waterfowl refuges
  - Location of cemeteries
  - Location of environmental justice communities
  - Proposed public involvement strategy
- Driveway design parameters such as general widths and maximum and minimum widths for residential and commercial driveways, and maximum driveway grades for residential and commercial driveways
- Benefit to cost analysis
- List of team members providing key information and data to date
- List of known utility, ITS, and railroad owners
- For ITS projects, reference to the Concept of Operations

- Anticipated and completed design exceptions and variances, along with supporting documentation
- Cost Estimates (each time changed)
- Project Schedule (Original and Baseline)

## Projects Not Requiring Concept Meetings or Concept Reports

Concept meetings or reports are not required for the following projects, but are highly desirable:

- Traffic signal installations for a single intersection
- Safety and Hazardous Location (Concept Meeting not required, Concept Report is required)
- Railroad-highway crossing warning
- Pavement marking
- Sign projects related to construction projects
- Resurfacing
- Guardrail
- Fencing
- Landscaping
- Street lighting
- Interstate Maintenance/Rehabilitation projects that do not involve capacity improvements, interchange additions, or reconstruction

## Initial Concept Development and Initial Concept Meeting

The purpose of the Initial Concept Meeting is to produce a higher quality and more detailed concept for all Major Projects and many Minor Projects by better organizing the Department's resources, identifying the core team and specialty team members, establishing lines of communications and responsibilities between team members, validate the "Need and Purpose" before working on the concept, gain a better understanding of the project corridor, understand the environmental scope, determine the anticipated public involvement approach, identify information that is available, define information that is needed to develop the concept, review the project schedule, and provide a transition between planning and design. For ITS Projects, the Initial Concept Meeting should include identification of key stakeholders involved with (or impacted by) the ultimate operation of the system. The Project Manager is encouraged to review the project location with the Design Phase Leader and Area Engineer prior to the Initial Concept Meeting.

Routine or Minor Projects, may not require an Initial Concept Meeting. The Project Manager will make the determination of need.

Appropriate items to be reviewed, requested, or discussed, as applicable, at the Initial Concept

Meeting may include:

- Evaluate the “Need and Purpose” (N&P prepared by consultants or local governments will be reviewed by the Offices of Planning and Environment/Location before presentation at the Initial Concept Meeting).
- Planning concept/modeling data (conforming plan’s project description and network schematic showing through lanes)/STIP project definition.
- Need for an Interchange Justification Report (IJR) or Interchange Modification Report (IMR). (See POLICIES AND PROCEDURES 3140-1)
- Safety concerns.
- Need for a formal or informal location inspection.
- Review alternates considered to date (ensure alternates considered and rejected are accurately and thoroughly documented).
- Preliminary design traffic (“Build Alternative” and “No-Build Alternatives”).
- Accident data for the previous three years.
- Traffic engineering report (if available).
- ITS opportunities.
- ITS architecture (if available).
- Ultimate operating agency or other users of the ITS system.
- Maintenance issues with the ITS system.
- Other GDOT offices, other state or local agencies that will be affected by the ITS system.
- Staging and traffic control.
- Work zone safety and mobility requirements.
- Traffic calming techniques to be implemented.
- Maintenance problems, including drainage and pavement problems.
- Proposed design criteria including speed design.
- Proposed type of access control.
- District information on public contacts and concerns to date.
- Evaluate the extent of public outreach efforts and coordination needed.
- Benefit to Cost Analysis.
- Coordination with FHWA, FTA, GRTA, and other non-environmental Federal, state and local agencies and/or governments.
- Requirements for:
  - Mapping
  - Aerial photography
  - Tax plats with property owners names
  - Photographs or Video logs
- Proximity to and impacts to railroads and railroad right-of-ways.
- Proximity to and impacts to airports.

- Existing structures and their condition.
- Environmental concerns:
  - History
  - Potential for Archaeology
  - Neighborhoods
  - Special interest groups
  - Context Sensitive Design
  - Cemeteries
  - Parks and recreation
  - Need for a Practical Alternatives Report (PAR)
  - Wetlands and streams, open waters, buffers, floodplains
  - Endangered species
  - Erosion and Sedimentation Control
  - Air Quality
  - Potential for noise impacts
- Possible permits required:
  - U. S. Army Corps of Engineers Section 404 Permit
  - Tennessee Valley Authority (TVA)
  - U. S. Coast Guard (USCG)
  - Stream Buffer Variance
- Opportunities to accommodate other modes of transportation.
- Coordination with other GDOT and local projects.
- Existing right-of-way.
- General location, size of utilities, and the need to employ an Overhead/Subsurface Utility Engineering (SUE) investigation (Quality Level D-records research only) to be used for further concept development.
- Concurrence to proposed project schedule.

The Project Manager will determine the participants to attend the Initial Concept Meeting. Refer to Appendix C for suggested list.

The outcome of the Initial Concept Meeting should be a better understanding of the project scope, identification of information that is available and what is needed, and the next steps to be accomplished in the concept development. The participants should agree on assignments and schedules for detailed concept development.

The Project Manager will update the project management system and provide meeting notes to the participants within 15 working days of the Initial Concept Meeting.

## Concept Development Considerations

It is essential that a high quality, comprehensive Concept Report be prepared as early in the process as possible. The benefits to be derived from a detailed concept include critical coordination with the planning process, better environmental analysis, and better right-of-way, utility, and construction cost estimates. In addition, earlier and better decisions on local government participation can be made. If required, a more detailed concept allows for better negotiations and definition of scope of services with outside consultants.

A Need and Purpose Statement provided by the Office of Planning will identify and describe the proposed action and the transportation problem(s) or other needs that the action is intended to address (40 CFR 1502.13). This section should clearly demonstrate that a "Need" exists and should define the "Need" in terms understandable to the general public. This statement should identify the critical issues as well as any secondary benefits. Data and discussion must be provided to support each conclusion. This discussion should clearly describe the problems that the proposed action is to correct. It will form the basis of the Alternatives discussion in the "Alternatives" section of the environmental document, including the "No action" discussion, and assist with the identification of reasonable alternatives and the selection of the preferred alternative. While project impacts are compared to one another, project impacts also are weighed against the stated Need and Purpose (i.e., is the need great enough to warrant the impacts on the environment). Charts, tables, maps, and other illustrations (e.g., typical cross-section, photographs, etc.) are encouraged as useful presentation techniques.

Also included in the Concept development should be an analysis of the benefit to cost ratio for the project. This can assist the Department in determining early in the project development process whether the benefits from the proposed design equal or exceed the project cost. It can also be used to determine the priority of the project in the STIP or Regional Transportation Plan. This analysis should be included in the concept report and discussed at the Concept Meeting.

Pavement Type Selection is a process where the most effective pavement type is determined for a specific project or corridor and includes a Life Cycle Cost Analysis for comparison of alternative pavement types. Early determination of pavement type is essential for accurate project cost estimating. Pavement Type Selection and Life Cycle Cost Analysis are required for projects where Portland Cement Concrete (PCC) pavement is being considered. They are not required for PCC pavement use on interchange ramps or matching of existing PCC pavement. The GDOT Pavement Design Manual provides guidance for when PCC pavement should be considered, Pavement Type Selection and Life Cycle Cost Analysis processes. The Office of Materials and Research (OMR) provide Pavement Type Selection and Life Cycle Cost Analysis Reports. The Design Phase Leader



requests the report and should provide the following with their requests: draft concept layout and typical section, old plans typical section, project traffic diagrams, existing overpass bridge vertical clearance, and expected profile changes.

Concept decisions shall be sensitive to environmental resources. Wherever possible, environmental resources are to be avoided, but where avoidance is not prudent, the impacts are to be minimized and mitigated. For those projects that are on new alignment or involve major new location sections, avoidance and minimization alternatives shall be coordinated with FHWA prior to the finalization of the Concept Report. Concept decisions shall also consider compatibility with adjacent land use (context - rural vs. urban section, historic area, etc. for example), address community issues if present, satisfy the Need and Purpose for the project, be consistent with the STIP, and provide for logical termini.

In keeping with Section 404(b)(1) guidelines, for those projects with potential to impact wetlands, streams, and open waters (Jurisdictional Waters of the US) early coordination and a review of the proposed alignment(s) shall be made with the NEPA Phase leader and an ecologist from the Office of Environment/Location. Special consideration shall be given to avoiding any impacts to Waters of the US, especially longitudinal stream encroachments. If avoidance is not possible, efforts shall be made to minimize impacts. The need for impacts to Waters of the US shall be documented in the Practical Alternatives Report (PAR); the report shall include an explanation as to why avoidance was not possible. The Corps of Engineers, Environmental Protection Agency, Environmental Protection Division and US Fish and Wildlife Service shall be invited to attend a field review to investigate the project alignment for potential impacts to Waters of the US and federally protected species. All reasonable alternatives to minimize these impacts shall be considered.

A PAR shall be prepared for those projects that require an individual Section 404 Permit from the Corps of Engineers. The report shall justify the alignment preferred by the Department and shall include construction cost estimates for the various alternatives considered. The PAR shall address the cultural, social, and economic impacts in addition to the wetland and stream impacts for each alignment studied. There shall be at least two alternatives studied. (The “No Build Alternate” is not an alternate to be considered for a PAR.) The Office of Environment/Location shall contact and coordinate with federal and state resource agencies and provide assistance to the Design Phase Leader as to what alternatives are to be considered and shall provide the cultural, social, and economic studies portion of the report.

If a PAR is required, the office responsible for preparing the Concept Report shall be responsible for preparation of the Practical Alternatives Report (PAR).

## Evaluation of Existing Structures

An early decision on the scope of work for major structures including bridges, retaining walls, and noise walls is essential. During Concept Development on all projects that include bridges, the Project Manager will request a Bridge Condition Survey from the Office of Maintenance, Bridge Maintenance Section. The Office of Maintenance, Bridge Maintenance Section will provide the Sufficiency Rating and a recommendation for removal and replacement, widening or rehabilitation on all bridge projects. The Design Phase Leader will ensure that the Office of Bridge Design is copied on all correspondence regarding the condition and recommendation for existing structures. The Design Phase Leader shall request a deck condition survey from OMR.

## ITS Rule 940

23CFR Part 940 governs any ITS project receiving Federal funds to follow a systems engineering analysis, commensurate with the project scope, for any project that moves into design. If the project moves into design prior to the completion of a regional architecture, a project architecture is required to support the system engineering analysis. The required system engineering approach is detailed in the GDOT Systems Engineering Guidelines. For the purpose of Concept Development for ITS projects, the following considerations should be included:

1. Identification of portions of the regional architecture being implemented.
2. Identification of participating agencies roles and responsibilities.
3. Requirements definition.
4. Analysis of alternate system configurations and technology options to meet requirements.
5. Procurement options.
6. Identification of applicable standards and testing procedures.
7. Procedures and resources necessary for operations and management of the system.

## Stream Buffers

The Georgia Erosion and Sedimentation Act requires that vegetative buffers be maintained on all streams and open waters meeting the definitions of state waters. A 25-foot vegetative buffer shall be maintained on warm water streams and waters; a 50-foot vegetative buffer shall be maintained on cold water trout streams and waters. Applications for a variance to this vegetative buffer requirement shall be made to the Georgia Department of Natural Resource's EPD by the Office of Environment/Location, in consultation with the appropriate design office once the preliminary erosion and sedimentation plans are available. This application shall discuss all efforts made to avoid the encroachment as well as efforts made to minimize the impact. All applicable mitigation measures and post construction water quality best management practices shall be documented for each required variance and shall be included in the Vegetative Buffer Variance application. In consultation with EPD, exceptions may be made for roadway drainage structures.

## Concept Preparation

In order to develop a meaningful concept, reduce the need for later concept rework, and plan a more realistic schedule, some elements of Preliminary plans may be incorporated into the concept layout and Concept Report. A valid concept addressing horizontal and vertical alignments is required and will contain such information as:

- Discussion and analysis of information identified at the Initial Concept Meeting.
- Design guidelines proposed.
- Context and setting design requirements.
- Landscaping requirements.
- Environmental survey results, specifically the results of the field surveys and agency coordination for historic properties, other Section 4(f) resources, cemeteries, wetlands, open waters, streams and their buffers.
- Design exceptions and design variances expected.
- Coordinated preliminary horizontal and vertical alignments.
- Typical sections.
- Edge of pavements.
- Some preliminary cross section work, including estimated construction limits.
- Preliminary capacity analysis including locations of proposed signalized intersections.
- Interface with adjacent projects.
- Intersection profiles with touch down points.
- Structural concepts (bridges and retaining walls).
- Constructability.
- Right-of-way requirements.
- Utility requirements.
- Preliminary driveway tie-ins.
- Preliminary construction cost. (See POLICIES AND PROCEDURES 3A-9)
- Preliminary right-of-way cost. (See POLICIES AND PROCEDURES 3A-9)
- Estimated Utility and Railroad cost. (See POLICIES AND PROCEDURES 3A-9)
- Utility and railroad requirements, determination if any at-grade crossings will be eliminated.
- Determine railroad/traffic signal preemption study requirements.
- Need for Transportation Management Plan (TMP) – See Workzone safety and Mobility Policy.

## Concept Team Meeting

The Project Manager shall cause a Concept Team Meeting to be held to present the proposed concept and alternatives and to allow discussion by the attendees. The notice of a Concept Team

Meeting will be sent out at least three (3) weeks prior to the date of the meeting. In order for the representatives to be fully prepared to discuss the project, copies of a draft Concept Report will be included with the notice for the concept team meeting. Attendees are expected to be familiar with the project and to contribute meaningful information to the meeting.

The Project Manager will determine the participants to attend the Concept Meeting. Refer to Appendix C for list of participants.

The Project Manager shall cause minutes of the meeting to be taken, which shall be attached to the final Concept Report. Among the items to be discussed at the concept meeting and included in the final Concept Report are:

- Need and Purpose.
- Logical Termini
- Planning Concept/Conforming plan's project description and network schematic showing through lanes /STIP project definition.
- Project background.
- Benefit to Cost Analysis.
- Location of environmental resources such as:
  - Wetlands, open waters, streams and their buffers
  - Park lands
  - Historic properties, potential archaeological sites
  - Streams and their buffers and open waters
  - Cemeteries
  - Location of potential hazardous waste sites
  - Underground storage tank sites
  - Threatened and Endangered Species
- Public Involvement.
- Alternatives considered and rejected to date sufficient for inclusion into the environmental document.
- Design criteria proposed.
- Horizontal and vertical alignments criteria.
- Typical sections.
- VE Study results or recommendations.
- Interchange Modification Report or Interchange Justification Report requirements.
- Access control.
- Practical Alternative Report (PAR).
- Type of environmental document anticipated.
- Environmental permits/studies required (Section 404, TVA, 4(f), biological assessments etc.).

- Project Framework Agreement.
- Right-of-Way requirements/estimate including easements:
  - Potential number of parcels
  - Number of Relocates,
  - Estimated right-of-way cost
  - Who will be responsible for purchasing the right-of-way
- Preliminary bridge assessments and structural needs including retaining and noise walls.
- Accident history.
- Potential soil conditions along project.
- Construction limits.
- Maintenance of traffic (detour, closed, or constructed under traffic).
- Maintenance problems existing along the project.
- Preliminary capacity analysis for the “Build Alternative” and “No-Build Alternatives”.
- Potential improvements recommended for intersections along project.
- Constructability of proposed project.
- Workzone safety and mobility requirements.
- Preliminary construction cost estimates. (See POLICIES AND PROCEDURES 3A-9)
- Project assignments.
- Project schedule.
- ITS Concept of Operations.
- Maintenance issues with the ITS system.
- Name, size, and location of utilities along the project (including utility cost estimates).
- It is also desirable to know as early as possible if the Office of Utilities is planning to use Subsurface Utility Engineering (SUE) on the project.
- If SUE is not employed, provide the name, size and location of utilities along the project (including utility cost estimates) from the information provided directly from the District Utilities Office.
- Proximity and probable impacts to railroad and railroad right-of-ways (including railroad cost estimates).
- Proximity and probable impacts to airports and/or flight paths.

Specific assignments may be made at the concept team meeting requesting information to be provided for the final Concept Report. The Project Manager will set a deadline for information due in order that the Concept Report can be completed and submitted in a timely manner. The Project Manager will ensure that the Project Team members update the project management system.

The Office of Bridge Design will assist the Project Manager by furnishing cost estimates for structural work needed for the project and alternatives. The Office of Bridge Design will pay

particular attention to the constructability of structural elements needed for a project during concept review. In some cases, transportation to the project site, erection of structural elements, and protection of the environment may be significant factors that must be considered early in the concept phase.

The Office of Right-of-Way will assist the Project Manager by furnishing a preliminary right-of-way estimate for the proposed project. This estimate should include an approximation of the number of parcels and the number and type of relocations. The Office of Right-of-Way shall also make a recommendation to whether permanent or temporary easements should be used.

The District Utilities Office will coordinate with the State Railroad Liaison in the Office of Utilities to assist the Project Manager by furnishing a preliminary utility railroad cost estimate for the proposed project. This cost estimate should include the names of all the utility companies, and railroad owners both public and private, having facilities/railways along or crossing the project and the type of facility present. The District Utilities Office will also update this cost estimate into the required field in TPRO. It would be desirable to know at this time if any of the utilities or railroad owners plans to install any new or upgrades to their facilities/railways within the life of the project. It is also recommended that a determination be made on whether the implementation/further use of an SUE investigation will be warranted on this project. The Project Manager will need to coordinate with the District Utilities Office to initiate the request for SUE through the State Subsurface Utility Engineer in the Office of Utilities.

For ITS Projects, the Office of Traffic Operations will assist the Project Manager by providing System Engineering support as may be required and detailed in the GDOT Systems Engineering Guidelines. This support should include assistance in documenting the project Concept of Operations for inclusion in or reference from the Concept Report. The Office of Traffic Operations will be responsible for assuring that all System Engineering analysis and procedures required by FHWA's ITS Rule 940 and the GDOT Systems Engineering Guidelines are followed.

## Concept Report

Based on the results of the concept meeting, the Project Manager will revise the draft Concept Report and drawings as required and upon receipt of the information from the other team members, prepare the Final Concept Report for the project. The report shall follow the format indicated in Appendix A.

All Concept Reports require the approval of the Chief Engineer and additionally the FHWA will review and approve Concept Reports on all Full Oversight projects. For design exceptions identified during the concept phase on full oversight projects, FHWA requires the review and approval of the

design exception prior to approval of the project concept. Chapter 8 describes the process for obtaining approval of design exceptions.

The Office of Program Control will be responsible for obtaining and consolidating comments concerning the proposed concept and preparing a written summary of the report with a recommendation for the Program Delivery Director's review and forwarding to the Chief Engineer for approval. However, the State Traffic Safety Engineer will forward Concept Reports prepared by the Office of Traffic Operations for safety and hazardous location projects to the Chief Engineer for approval.

## Concept Report Performance Measures

In accordance with POLICIES AND PROCEDURES Directive 2440-2 for the Concept Review Process, the reviewing offices will rate each key focus area and include a summary of the results with their review submittal to the Office of Program Control.

## Concept Report for Minor Projects

Location and Design approval for Minor Projects is granted when the Concept Report is approved. Therefore, a "Notice" for Location and Design approval will be included as a part of the Concept Report submission. The date of location approval for compliance with Georgia Code 22-2-109(b) is the date of approval of the Concept Report by the Chief Engineer. The notice of location approval will follow the same procedures as required for Major Projects. See Appendix B for requirements of the Notice and publishing.

## Concept Report Processing

In accordance with the electronic processing of Concept Reports guidelines implemented by the Office of Program Control, forward all request for Concept Report, Revised Concept Report, Location and Design Report, and Detour Reports approval to [ConceptReports@dot.ga.gov](mailto:ConceptReports@dot.ga.gov) and copy the Office Heads listed on the signature page.

- For those reports prepared in the Office of Urban Design, Office of Road Design, Office of Bridge Design, the Office of Innovative Program Delivery or Office of Program Delivery the original report shall be sent to the Office of Program Control with copies distributed for review and comment to Office of Engineering Services, Office of Environment/Location, Office of Traffic Operations, Office of Planning, District Engineer, and Office of Bridge Design (only for those projects which involve structures) or appropriate Roadway Design Officer. Within 10 working days of receipt, the review offices shall send their comments and a signed concept cover sheet to the Office of Program Control for further handling. In addition, the

Office of Planning will certify that the concept meets the project definition as contained in the approved STIP/TIP.

- For those reports prepared in the District Offices, Office of Environment/Location, or Office of Traffic Operations, the original report shall be sent to the Office of Program Control with copies distributed for review and comment to Office of Engineering Services, Office of Environment/Location Office of Traffic Operations, Office of Planning, and Office of Bridge Design (only for those projects which involve structures). Within 10 working days of receipt, the review offices shall send their comments and a signed concept cover sheet to the Office of Program Control for further handling. In addition, the Office of Planning will certify that the concept meets the definition as contained in the approved STIP/TIP.
- For ITS Projects, the Office of Traffic Operations will verify that the Concept of Operations referenced by or included in the Concept Report meets the requirements of ITS Rule 940 and the Systems Engineering process.
- For those reports prepared by the Office of Traffic Operations for Safety Improvement Projects, the original report shall be sent to the District Engineer with copies distributed for review and comment to the District Preconstruction Engineer, the District Traffic Operations Engineer, the District Utilities Engineer, and the Office of Right-of-Way. Within 10 working days of receipt, the review offices shall send their comments and a signed cover sheet to the State Traffic Safety Engineer. The original report signed by the District Engineer and a "Notice" for Location and Design approval shall then be sent to the Chief Engineer for approval. The approved Concept Report and "Notice" will be returned to the Office of Traffic Operations for further processing and to the District Engineer for publication of the "Notice." Upon receipt of right-of-way and utility cost estimates, the Office of Traffic Operations will request the OFM to program the approved Concept as a project, add the project to the CWP, and assign a project number and a project identification number. Upon addition of the project to the CWP, a copy of the approved Concept Report and "Notice" will be distributed to the Chief Engineer, the Director of Program Delivery (letters only), the Office of Program Control, Office of Engineering Services, OFM, Office of Environment/Location, District Traffic Engineer, and the Office of Traffic Operations' Accident Analysis Engineer.

The date of location approval for compliance with Georgia Code 22-2-109(b) is the date of approval of the Concept Report by the Chief Engineer. The notice of location approval will follow the same procedures as required for Major Projects.



The original approved Concept Report shall remain in the Office of Traffic Operations until the project's design and construction has been completed.

## Concept Report Updating

The Project Manager will review with the Program Control Administrator all comments received and accepted during the Concept Report processing and incorporate those comments into an updated Concept Report. Since this update is incorporating the comments received during the Concept Report processing, it is not considered a concept revision and will not be processed accordingly.

## Concept Report Approval

The Program Control Administrator will forward the updated Concept Report to the Director of Program Delivery for concurrence and approval as follows:

### GDOT Approval of Concept Reports

The Director of Program Delivery will forward all Concept Reports to the Chief Engineer for approval. See below for approval by the FHWA.

### FHWA Approval of Concept Reports

The FHWA will review the Concept Reports for all projects that have Full Oversight. The recommendation/approval letter prepared by the Program Control Administrator shall be routed to the Chief Engineer for concurrence of the concept and then routed to the FHWA by the Chief Engineer. The FHWA will return the approved and signed Concept Report to the Department for the Chief Engineer's final review and approval.

## Approved Concept Report Distribution

Upon the Chief Engineer's approval of the Concept Report, the Program Control Administrator shall distribute the approved document to the Project Manager, Design Office, appropriate Transportation Board members, Office of Engineering Services, Office of Environment/Location, Office of Traffic Operations, District Engineer, Office of Bridge Design (if appropriate), OFM, Office of Planning, Office of Transportation Data, and the local government (include all cities and counties affected). Distribution to all internal GDOT offices will be handled through email.

A copy of the approved Concept Report will be placed in Archive Store by the Program Control Administrator and made available for viewing in TRENDS. The Project Manager will place a copy of the concept report in the Project Design Data Book.

## Revised Concept Reports

A revised Concept Report is required whenever:

- The basic typical section is proposed to be changed (example: median width, number of thru lanes is changed).
- Project termini are shortened or lengthened, including locations for passing lanes, except minor adjustments that do not impact right-of-way.
- Project access control is changed.
- Changes in right-of-way limits, as determined by the Office of Environment/Location, which may affect the analyses of:
  - Historic resources
  - Threatened & Endangered species or habitat
  - Archaeology sites
  - Cemeteries
  - Wetlands
  - Open waters and their buffers
  - Streams and buffers
  - Air quality
  - Noise studies
- Alignments revised (from a widening project to new location project or vice versa, at-grade intersection to grade separation, etc).
- Meeting the requirements of the Controlling Criteria. See Chapter 8 for a listing of these criteria.
- There are changes to the ITS Project Concept of Operations involving operational practices and procedures, involvement of major operational stakeholders, or there are changes to any supporting system operational dependencies, interfaces or assumptions.
- If there are any questions about the need for a revised concept, please contact the Office of Program Control.

If the project concept is changed during or just prior to preparation of the Location and Design Report, these changes will be noted in and approved as a part of the Location and Design Report.

Prior to submission of the Revised Concept Report to the Program Control Administrator, the Project Manager will consult with the Office of Environment/Location to determine if and how the changes will impact the environmental studies and with the Office of Planning to determine if and how the changes will impact adopted transportation plans and TIPs.

Who prepares the Revised Concept Report?

- If preliminary design has not been started, the office preparing the original Concept Report

shall revise the concept.

- If preliminary design of the project is underway, the Design Phase Leader for design of the project will be responsible for preparing the Revised Concept Report.

The Revised Concept Report will use the form outlined in [Appendix A-1](#).

The processing of revised Concept Reports will follow the same steps that were followed in the processing of the original Concept Report. In addition, the Office of Engineering Services will include in their review a cost estimate for the requested changes.

## **Concept Development by the Office of Traffic Operations (OTO) for Interstate or Limited Access Roadway ITS Projects**

The Office of Traffic Operations shall develop concepts for Interstate or Limited Access Roadway ITS projects on existing right-of-way. Projects are Federal-Aid ITS with full FHWA oversight and will be developed in accordance with the policies and objectives of Titles 23, 40, and 42 United States Code.

The Project Manager will coordinate with the Office of Environment/Location and request aerial photography and mapping, as required, of the proposed project area no less than 15 months before scheduled let date. Mapping the proposed design area can be essential to the development of a clear and understandable concept and final plans. If requested, the mapping should have sufficient detail for use as presentation material during a concept team meeting and serve as the plan base for final plans.

If mapping of the project area does not already exist and is required, the Project Manager in coordination with the Office of Environment/Location should request mapping no less than 15 weeks prior to the concept team meeting. This request should include the necessary items such as aerial photography, base maps, traffic projections, and all of the detail required for plan preparation in the preliminary design phase. As-built drawings of the project area may be available from the plans file room in the Office of Road Design and existing right-of-way plans may be available from the Office of Right-of-Way.

Upon receipt of aerial photography, the OTO Design Team Leader will prepare a plot, in plan sheet format, of the project database. This plot will include the location of proposed devices requiring electrical power. This plot will be provided to the District Utilities Engineer for locating service points to all proposed devices. The District Utilities Engineer will also provide the plot to the utility owners for “marking up” the location of existing utilities if the utilities are not furnished by a subsurface utility engineering survey. The existing power service information will be needed prior

to the concept team meeting. This existing utility information will also be needed in the preliminary design phase.

The Project Manager will assemble a project team and assign an OTO Team Leader who will be responsible for directing the Systems Engineering process outlined in the GDOT Systems Engineering Guidelines. Using these Guidelines, the OTO Team Leader will also coordinate the various activities and information needed for the Concept Team Meeting, Concept Report, and Concept Report Processing and Approval also outlined above. Members of the project team may vary from project to project; however, OTO Design staff will be represented.

For ITS Projects, the Concept Report shall include, either directly or by reference to another document, a Concept of Operations. The GDOT Systems Engineering Guidelines includes the recommended content of a Concept of Operations.

In developing a clear and comprehensible concept pertinent to ITS projects, the Project Manager will accomplish specific objectives. These objectives will involve, but are not limited to, determining preliminary field device locations, estimating fiber optic cable sizing and routing, coordinating with other design offices, including Maintenance, on projects they may have under design in the same area, preparing cost estimates, and developing a Concept Report, including a Concept of Operations, and presentation materials for a concept team meeting. The Concept Report should identify the project area and limits, an overview of all ITS devices and infrastructure in the project. The Concept of Operations, which is a part of the Concept Report, will detail the operational requirements and significance of each device type and sub-system in the project. If functional requirements have been developed, they shall be mapped to the Concept of Operations. Once the draft concept has been fully developed, the Project Manager will schedule a concept team meeting. Representatives of the project team will be invited, including the following: FHWA, Office of Bridge Design, Office of Construction, OTO, District Engineer, Office of Planning, Metropolitan Planning Organization (MPO) (to be invited by the Office of Planning), local government engineers (Traffic, etc.), Office of Utilities (contact District), Office of Engineering Services, appropriate design office, Office of Environment/Location, Division of Information Technology, and consultants. The District Engineer will notify and invite the appropriate Transportation Board members and local elected officials (state, county, and city).

The process for reviewing Concept Reports for ITS Projects, addressing comments and development of final, updated and revised Concept Reports shall be the same as outlined above. Upon concept approval, an environmental analysis will be requested from the Office of Environment/Location. Upon approval of the Concept Report, the Project Manager, working with the OTO Team Leader, will develop the ITS Project plans and specifications using the process outlined in the GDOT Systems Engineering Guidelines and consistent with FHWA's ITS Rule 940. The ITS Project Concept of

Operations and related System Functional Requirements document should be completed prior to starting Preliminary Design. In no case shall design for an ITS Project commence prior to approval of the Concept of Operations and System Functional Requirements. The traceability (or mapping) of system functional requirements to project plan and specification elements must be completed prior to holding the Preliminary Field Plan Review (PFPR).

## **Preliminary Concept for Hardship and Protective Buying**

In rare instances when a project is programmed and before preliminary design is scheduled to start or a project Concept is approved, a property owner or business owner may come forward and indicate to GDOT that waiting on a transportation project to be implemented will cause an undue hardship on them. Similarly, a private project or development may threaten a programmed project or potentially cause a significant increase in the cost of implementing the programmed transportation project.

In these instances the Project Manager may propose the “Hardship Acquisition” or the “Protective Buying” of the affected property. In these cases a Preliminary Concept must be developed. The level of detail required in such a preliminary concept is between that required in a planning concept and a final Concept Report and in addition, it only addresses the areas affecting the “Hardship” or “Protective Buying” parcels. The Project Manager should address all those items required in the initial concept and final Concept but to a very limited degree. An environmental analysis for advanced right-of-way acquisition will be required along with meeting all State and Federal guidelines. (Refer to POLICIES AND PROCEDURES 4605-3 for additional guidance.)

## **Updated Cost Estimates**

The Project Manager will update the estimated right-of-way, utility, and construction costs of the project once each year and at any time there is a significant cost increase or decrease. The revised cost estimate will be furnished to the Office of Engineering Services with a copy to the OFM and Program Control. The OFM will update the project cost estimate annually with the update of the CWP, upon approval of the Chief Engineer. Likewise, whenever there is a change in the project cost prior to the Authorization of ROW, an updated benefit to cost analysis should be prepared to determine if the project is still viable. If the analysis shows a significant reduction in the benefit/cost ratio or it decreases below 1.0, a recommendation as to how to proceed should be submitted by the Office Head to the Division Director. Documentation of the course of action taken will include a written recommendation by the Division Director and approval by the Chief Engineer. (Reference POLICIES AND PROCEDURES 3A-9) – for additional guidelines.

## Consultant Cost Estimates

Projects developed by consultant engineering firms, and under the oversight of GDOT, shall be responsible for updating of their project cost estimates. Contractually, consultants are required to update project cost estimates consistent with POLICIES AND PROCEDURES 3A-9

## Value Engineering Study at Concept Stage

A Value Engineering (VE) Study shall be made for all projects having an anticipated concept estimated cost of \$10 million or more, including inflation and engineering cost and contingencies (E & C), and inclusive of PE, ROW and reimbursable utility costs.

Value Engineering Studies are anticipated to be accomplished during the latter part of concept development but no later than the early stages of preliminary plan development in order that any significant cost savings identified by the VE study will be included early in the project design.

The Project Manager shall identify whether or not a project meets the criteria for a VE Study during the Concept Development Stage and will be responsible for ensuring that the Value Engineering Studies are requested and performed.

The Office of Engineering Services is responsible for conducting the VE study. For more detailed information on Value Engineering requirements, see POLICIES AND PROCEDURES 2450-1.

## CHAPTER 6: PRELIMINARY DESIGN

Preliminary design begins with the approval of the project's Concept Report and many activities are automatically set into motion in accordance with the project's schedule. The office responsible for the specific activity shall be responsible for determining the resources to be used for that activity and when that activity begins.

After approval of the Concept Report and concurrent with the environmental studies, the preparation of preliminary construction and preliminary right-of-way plans will begin. Some preliminary design and environmental activities may have been required during the concept stage. This information will be incorporated in the Preliminary plans.

If there has been a significant amount of time elapsed between the approval of the Concept Report and the beginning of preliminary design, the Project Manager will validate the project's concept including the design year traffic forecast, proposed typical section, design speed, project cost estimates, and horizontal and vertical alignments to ensure the project design team will be working on the correct scope of work and design year traffic forecast.

It is imperative that all personnel working on the project team keep all other members of the project team informed of changes they propose to make or have made in their area of responsibility that will affect the others, such as; planning, environmental (including permits), right-of-way, utilities, soils, bridge and wall design, roadway design office, construction, and the District Office.

### Environmental Process – Federal Aid

In keeping with the project schedule, the Office of Environment/Location will continue their process for gathering information and studying the impacts to the resources along the proposed project alignment. The Design Phase Leader will provide the Office of Environment/Location with any supporting information needed to evaluate the environmental impacts.

For those projects involving Federal funds, the process outlined in the National Environmental Policy Act (NEPA) must be followed. There are three levels of environmental documentation:

- Categorical Exclusion (CE).
- Environmental Assessment (EA)/Finding of No Significant Impact (FONSI).
- Environmental Impact Statement (EIS)/Record of Decision (ROD).

The actual level of study will depend upon the impacts to the environment. The level of study must have the concurrence of the FHWA. Any of the three levels of study may be involved with Section

4(f) documentation.

The Office of Environment/Location will notify the appropriate offices when the environmental document is approved. The approved document and appropriate attachments shall be submitted to the Project Manager by the Office of Environment/Location to be incorporated into the project document site. All re-evaluations shall be handled in the same manner.

All environmental studies and documents shall be prepared in accordance with the Department's Environmental Procedures Manual found at <http://wwwb.dot.ga.gov/dot/preconstruction/r-o-a-d-s/oel/html/index.html>

The overarching law is the National Environmental Policy Act (NEPA). NEPA requires the public disclosure of environmental impacts before project decisions are made. Environmental concerns are factored into decisions made as a project is developed and advanced. The NEPA document also publicly discloses the decision making process.

NEPA requires compliance with a variety of environmental laws, regulations and executive orders. Thus, environmental compliance is multi-disciplinary and requires the involvement of a number of environmental team members. Consultations with a variety of environmental agencies are also required. The project schedule must reflect these requirements.

Environmental resources identified during the concept development and any time thereafter should be considered when developing/designing a project. Various environmental laws require that every effort be made to avoid and/or minimize harm to environmental resources such as:

- Historic resources
- Non-historic Section 4(f) resources (publicly owned parks, recreation areas, wildlife and waterfowl refuges)
- Waters of the US (wetlands, streams and open waters)
- Vegetative buffers on streams and their waters
- Cemeteries
- Threatened and Endangered (T&E) species and their habitat

The Project Manager should ensure these resources are shown on project displays and plans as soon as possible so that the design team (roadway, bridge, utilities, etc) can make every effort to avoid or minimize resources. When the project cannot avoid an identified resource, the designer should coordinate with the NEPA team member to develop the most desirable alternative meeting all design criteria. A design exception or variance may be applicable in some situations to minimize the impacts. Once this alternative has been developed the environmental team members will



assess the project impacts and conduct the appropriate agency consultations.

Once a preliminary alignment has been developed, the Project Manager shall send five sets of project plots (plans or photos) to the NEPA team member to begin identifying archaeological resources and community facilities.

Environmental approvals are valid until the project footprint changes. Any project changes considered must be coordinated with the NEPA team member to evaluate the need for and timely completion of environmental re-evaluations. The project team shall consider all issues before making a change to the project. Changes to the affected environment and environmental regulations also may need to be considered during re-evaluations.

If a funding authorization (right-of-way or construction) is required, the environmental document must be reconsidered. If no changes to the project have occurred, the NEPA team member may need to process a “no-change re-evaluation” depending on the time passed since the prior approval. If changes have been made, regardless of when the last approval occurred, the document must be re-evaluated so that the approval matches the project plans prior to FHWA granting the authorization.

## Environmental Process – State Aid

The Georgia Environmental Policy Act (GEPA) requires that the agency official consider the effect of state actions on the environment. There are three levels of GEPA documents:

- Type A letters – Non-land-disturbing activities and minor land-disturbing activities that would not be anticipated to significantly adversely affect the quality of the environment qualify for a Type A letter.
- Type B letters – Projects that qualify for a Type B letter includes the studies conducted during the Significance Determination demonstrate that the project will not significantly adversely affect the environment.
- Environmental Effects Reports (EER) – If studies demonstrate that the project may significantly adversely affect the quality of the environment, development of an Environmental Effects Report (EER) will be undertaken.

All GEPA documents shall be prepared in accordance with the Environmental Procedures Manual found at <http://wwwb.dot.ga.gov/dot/preconstruction/r-o-a-d-s/oel/html/index.html>

Reevaluations for GEPA documents will be prepared if changes have occurred in the project design that either contradicts what was indicated in the approved environmental document, or is

significant to require additional environmental study, or if changes occur in the affected environment.

If the project originally required a Type B letter, project changes will be evaluated to determine if the impacts continue to be of a type that do not “significantly affect the quality of the environment.” The Type B letter will be amended to document this finding. Should the changes result in “significant effects to the quality of the environment,” an Environmental Effects Report (EER) and Notice of Decision (NOD) will be prepared and circulated.

If the project originally required an EER, project changes will be evaluated to determine if impacts discussed in the document continue to be accurate. If the evaluation continues to be valid, a memo will be prepared to document this finding. If the project changes result in a new environmentally sensitive resource sustaining a significant adverse effect, the EER will be modified and recirculated. The NOD also will be modified to reflect the new findings.

Prior to letting, the project shall be reviewed to insure that the project plans accurately reflect the environmental findings.

## **Surveying and Mapping**

Survey, Mapping, topography, ROW, property lines shall be in accordance with the Department’s Survey Policy Manual.

The Project Manager will request photography, mapping and all other surveys through the Office of Environment/Location. The Project Manager should meet with the cartographer prior to beginning the mapping to discuss the project concept and the limits of the mapping. At this time, a joint decision is made as to whether the project will be designed using photogrammetric cross sections or a digital terrain model (DTM). The Project Manager can at this time request that the Office of Utilities have a pipe inspection performed on the project, if needed.

## **Mapping with Photogramatic Cross Sections**

Once mapping is complete the DGN files are submitted to the Project Manager. With the receipt of mapping, the roadway designer begins the preliminary alignment design. Once the alignment has been established, it shall be furnished to the Office of Environment/Location with a request for cross sections. Photogrammetric cross sections are then compiled for the mainline and cross roads and submitted to the Project Manager.

## Mapping with DTM

When the mapping is ready for transmittal to the District Office for enhancement by field survey, the request for enhancement will include the available mapping with the proposed roadway alignment and cross sections. The field survey effort is not to begin until a Public Information Open House or Public Hearing Open House has been held or the opportunity for a Public Hearing has been advertised and the requesting period expired with no request for a hearing having been received. For Minor Projects, survey activities may begin at any time. It is imperative when field surveys are to be performed on private property, either by GDOT forces or consultants, the property owners shall be notified by the Survey Party Chief in writing prior to the surveyors entering onto the private property. If GDOT is to perform the surveys, GDOT is responsible for the notifications. If consultants are to perform the surveys, the consultant is responsible for the notifications.

Prior to the beginning of the field survey effort, the District Location Engineer shall initiate a meeting, on the project site, between the designer, and the Survey Party Chief to review the project in the field and discuss what survey data is to be obtained and the limits of the survey effort. (Other participants in this meeting may be the District Utilities Engineer and the Area Engineer.) Among items to be discussed will be cross road surveys, bridge surveys, driveway profiles, property lines, stream surveys needed for hydraulic engineering reports, railroad surveys and cross sections, drainage surveys, utilities, and any special features. A second meeting between the designer, survey party chief, and the bridge designer may be necessary to complete the bridge and stream surveys as the development of the preliminary bridge layout progresses. The survey and/or mapping of the project will include the information needed to accommodate the necessary project transitions, including lane tapers, at the beginning and end of the project.

All field survey data will be collected in accordance with requirements of the "Automated Survey Manual," as maintained by the Office of Environment/Location, and the data processed utilizing the "Survey Processing Guidelines," as maintained by the Division of Information Technology.

Concurrent with the request for field surveys, the Design Phase Leader will prepare a plot, in plan sheet format, of the project database including all mapping features and the approximate project limits for both the mainline and the side roads. The Project Manager should be generous with the project limits at this point to ensure adequate coverage of the existing utility information. The Design Phase Leader should set some dimension outside of the project limits to ensure adequate survey coverage is obtained for design and eliminate the need for additional field survey later. In addition, the plot will contain available information such as property lines and owners' names, existing right-of-way, cemeteries, and environmental areas of concern. This plot will be provided to the District Utilities Engineer (first submission of utility plans) who will provide it to the utility owners for "marking up" the location of existing utilities if the existing utility information will not be furnished by a Overhead Subsurface Utility Engineering (SUE) survey. Additionally, the Design Phase

Leader shall follow the “Procedure for the Electronic Transfer of Utility Plans” whenever possible. Following these procedures will allow for an electronic method of plan transmittal that will minimize the time and effort required to obtain utility information required for the project’s design.

**Note:** It is not necessary to have complete, final horizontal alignments and cross-sections for this submission.

## Preliminary Design

Once the database enhancements are obtained including SUE information where applicable, the Design Team should continue with the preliminary design up to the point of beginning the final right-of-way plans.

1. The Design Team shall adhere to the following guidance:
  - AASHTO – 2004 Green Book and other Policies
  - GDOT Design Policy Manual
  - GDOT Context Sensitive Design Manual
  - GDOT Bridge and Structures Policy Manual
  - GDOT Drainage Manual
  - GDOT Signing and Marking Design Guidelines
  - GDOT Traffic Signal Manual
  - GDOT Pavement Design Manual
  - GDOT Plan Presentation Guide and Electronic Data Guidelines
  - Other guidance listed on R.O.A.D.S. website
2. Preliminary design and coordination activities include, but is not limited to:
  - Typical sections
  - Preliminary Pavement Design
3. Processes during preliminary design that must occur include, but are not limited to:
  - Traffic analysis using HCS, Corsim, or other approved tool to design intersection configuration (length and number of turn lanes, etc.).
  - Geometric design such as horizontal and vertical alignments, intersection, and superelevation. Checking/documenting design criteria such as sight distance (intersection, stopping, passing), and Superelevation (SE) transition.
  - Once Horizontal & Vertical are set, create cross sections to establish construction limits.
  - Driveway Profiles.
  - Drainage design (cross drains and roadway drainage systems, including possible detention).
  - Ditch design.
  - Design Exceptions and Variances.

- Construction staging including cross sections and utilities if applicable.
- Erosion and sediment control.
- Bridge layout (link to information required to request).
- Wall layouts.
- Establish preliminary ROW and easement required for the project. ROW and/or easement to be set at dimensions established at concept. ROW and/or easement to be set 10 feet minimum beyond construction limits. All permanent roadway infrastructures such as signs, poles, signals, drainage systems including inlet and outlet structures (maintained by the Department), walls, sidewalks, etc. shall be within permanent right-of-way.
- Calculate preliminary quantities.
- Hydraulic Study.
- Federal Emergency Management Agency (FEMA) coordination (checking 100 year flood elevations).
- Request Bridge Condition Survey.
- Request Bridge Deck Survey.
- Request soil survey.
- Request Underground Storage Tank survey.
- Request existing pavement evaluation.
- Request existing utility locations (conventional or SUE).
- Request preliminary signing, marking and signals including strain pole location.
- Conduct constructability review (if applicable).
- Request VE study (if applicable).
- Request PFPR.
- Respond to PFPR.

The Design Phase Leader is directed to the GDOT document titled [Plan Presentation Guide](#) to assist them in the preparation of a uniform set of plans.

## Bridge Condition Survey

For projects including a bridge widening or rehabilitation, a Bridge Condition Survey should have been completed by the Office of Maintenance, Bridge Maintenance Section during Concept Development. If the Bridge Condition Survey is more than three years old, the Bridge Maintenance Section must perform a survey or confirm previous recommendations to widen rehabilitate or replace the structure. The Project Manager should request this survey upon availability of applicable information.

## Deck Condition Survey

In addition, for projects including a bridge widening or rehabilitation, a Deck Condition Survey must be completed by the Office of Materials and Research (OMR) Concrete Branch. The Project Manager should request this survey upon availability of applicable information.

## Soil Report and Pavement Evaluation

The Project Manager will submit requests to the OMR for soil survey and existing pavement evaluation reports. These requests are usually submitted together. The plans sent will include project cover sheet, typical section, plan and profile sheets, preliminary drainage plans, and cross sections for the entire project including mainline and cross streets. A soil survey is required at Final Field Plan Review (FFPR) for all major projects and at Preliminary Field Plan Review for major projects in certain counties. An existing pavement evaluation is required when existing pavement is being retained. The GDOT Pavement Design Manual describes the existing pavement evaluation purpose and process. A sample letter is available at the OMR website.

It is imperative when geotechnical investigations are to be performed on private property; either by consultants or GDOT forces, property owners shall be notified in writing by the Survey Party Chief prior to geotechnical crews entering onto the private property. If GDOT is to perform the soil surveys, GDOT is responsible for the notifications. If consultants are to perform the soil surveys, the consultant is responsible for the notifications.

## Utility

The Project Manager will send the preliminary plans to the District Utilities Office for their use in obtaining existing utility locations from each respective utility owner found in the project's limits. This submittal shall occur as soon as the preliminary horizontal and vertical geometry have been established.

When SUE is used, SUE information is incorporated into the project plan set. The plans will be submitted to the District Utilities Engineer and shall be considered the Project Manager's "first utility plan submittal" on the project. The District Utilities Office will coordinate with each utility owner to verify the SUE information provided is correct, and to ensure that a schematic representation (preliminary utility relocation markups) showing the appropriate location of their proposed facilities is provided in relation with the preliminary plans. The intent of this schematic or preliminary utility relocation design is to provide enough information to make fundamental determinations of how the proposed utilities will impact the Department's ROW acquisition, staging, and environmental documentation process. Upon receipt of the markups, the District Utilities Office will review to ensure the preliminary design conforms with the Department's Utility

Accommodation Policy, and forward to the Project Manager for incorporation into the project plan set. The submittal will include the project cover sheet, typical section, plan and profile sheets showing preliminary drainage design, preliminary utility plans showing all existing utilities found during the respective SUE investigation and the cross sections sheets.

On a major project, if SUE is used and the utility impacts are major enough to impact project staging, then the Design Phase Leader will request the District Utility Office to request staging plans from the appropriate utilities. The goal here is that prior to the PFPR, the Project Manager will have a schematic of the relocated utilities and that prior to the FFPR, complete utility staging plans will be part of the project's staging plan.

## **Signing, Marking and Signals**

As soon as the existing right-of-way, existing overhead and underground utilities, horizontal and vertical geometry have been established and initial cross sections are available, the preliminary plans will be sent to the OTO. The OTO can begin signal, signing, and marking design and determine if additional right-of-way will be needed for signal poles, controller cabinets, and overhead signs and strain poles. Later in preliminary plan development, after plans have been modified to address PRPR comments but prior to the submittal of ROW plans for approval, the OTO needs to again review the plans to insure that all proposed traffic safety and design features are within the proposed ROW.

## **Constructability Review in Preliminary Design**

### **Introduction**

The Department has established the following constructability review procedures in order to secure buildable transportation projects which advocate cost savings associated with direct communication between designers, construction personnel, suppliers, and contractors during the design phase. In August 2000 the AASHTO Subcommittee on Construction published a document entitled "Constructability Review Best Practice Guide" and defined "Constructability Review" as "a process that utilizes construction personnel with extensive construction knowledge early in the design stages of projects to ensure that the projects are buildable, while also being cost-effective, biddable, and maintainable."

## Goals & Objectives

The following goals have been developed in order to promote an effective and successful constructability review process that improves the quality of the Department's construction bid package.

- That the project, as detailed to date with both plans and specifications, can be constructed using standard construction methods, materials, and techniques associated with location.
- Proposed plans and specifications provide a clear and concise picture that all contractors can come to the same final conclusions in preparing a competitive, cost-effective bid.
- That the final project as specified in the plans and specifications can be effectively maintained over the life of the project.
- Foster a level of involvement by experienced construction personnel during the planning and development phase.
- Reduce construction phase costs with reduced change orders, claims, and scope inconsistencies.
- Improve contractor's productivity and reduce construction phase schedules.
- Minimize the traveling public's inconvenience.
- Increase compatibility associated with environmental requirements and construction means and methods.
- Promote construction phase safety.

**\*See "Constructability Review Guidance Tool"**

## Who Should Attend

The meeting invitation, initiated and led by the GDOT Project Manager, should include the following key personnel: GDOT District Engineer, GDOT State Construction Engineer (to contact and invite local Contractors at his or her discretion), GDOT District Construction Engineer, FHWA Transportation Engineer, GDOT Engineering Services Manager, and the GDOT District Utility Transportation Engineer (the District Utility Engineer may invite utility companies if deemed necessary), GDOT District Maintenance Engineer, Design Entity Phase Leader, and the GDOT District Preconstruction Engineer. Others may be invited at the discretion of the Project Manager or the District Construction Engineer, but both should keep in mind that the constructability review is best conducted by a small working group, yet include the necessary expertise required to address the major issues related to the project. Environmental requirements should be considered during the constructability review with the Office of Environment/Location receiving a copy of the meeting minutes.

## When to Hold CR Meeting

The Constructability Review meeting should be conducted after Concept Report approval during the preliminary design phase, near 30% plan completion. Minor project and major project reviews may



be handled differently. Minor project constructability reviews may be handled at the Concept Team Meeting and at the Preliminary Field Plan Review meeting and not require a separate “stand alone” review meeting. The stand alone Constructability Review Meeting should be scheduled once the horizontal and vertical geometry has been established, the initial cross sections are available, and SUE survey data has been received (for SUE projects). The benefits of this review are significant – it should limit costly plan changes later, it familiarizes the team members with the project, opens lines of communication, continues the teamwork process, and distributes ownership of the project. In some cases, the Project Manager may choose to hold the meeting after more information is available (bridge layout, existing utility locations, etc.) if project conditions warrant. *It is highly recommended that the GDOT Project Manager coordinate the PFPR, the Value Engineering Study (if required), and the Constructability Review Meeting as close as possible in order to keep pending comments, suggestions, and recommendations scheduled for one consistent response by design entity.*

### **Which Projects need a Constructability Review**

Project recommendation, scope, need, and frequency should be allowed from more than one source, however will most likely come from the GDOT Project Manager, Project Design Manager, GDOT District Engineer, or the GDOT District Construction Engineer. Projects that will benefit from a Constructability Review contain staged construction, and high daily traffic volumes. Typical project types that will benefit the most from a constructability review include PDP classified “Major” project, bridge replacements, drainage improvements, and widening and reconstructions.

### **Meeting Location**

The constructability review meeting should be held at a local GDOT Area Office and culminate with the project being driven and walked in a logical order.

### **Documentation**

The GDOT Project Manager is responsible for keeping minutes of the discussion and getting concurrence (via email or signature) on the minutes from the GDOT District Construction personnel who attended the review. The minutes should note any action items from the meeting, be sent to all who attended the review and be documented in the project file.

The GDOT Project Manager shall be responsible for keeping the Constructability Review Reports as well as disposition of items contained in the Reports in a centralized location (GDOT FTP Site) that is accessible to both internal and external customers and shall be stored by P.I. Number. Use of all documents saved to the GDOT FTP site shall be available as part of future training sessions.

## Value Engineering (VE) Study in Preliminary Design

If the VE Study is performed after a Project Concept Report has been approved and implementation of the VE Study or parts thereof significantly revises the concept, cost, or the scope of the project, the Project Manager shall submit a Revised Project Concept Report and cost estimate for approval and an environmental reevaluation.

The current Office of Engineering Services, ([POLICIES AND PROCEDURES 2450-1](#)), for VE studies shall guide the Project Manager.

## Preliminary Right-of-Way Plans

Preliminary ROW plans will include the property owner's name, location of the proposed ROW and easement lines, construction limits, driveway locations, access control, drainage outfalls, erosion control devices, signal and strain poles, proposed utility relocations, if known, and the location of bridges, retaining and noise walls. Final ROW plan data such as stations and offsets to property and ROW lines, required areas of need, and remainder for right-of-way and easements are not required at this time. Preliminary ROW Plans are not typically prepared unless specifically required for a project.

## Office of Bridge Design - Bridge and Retaining Wall Design

When preliminary alignments are set, the Project Manager will send to the Office of Bridge Design a partial set of preliminary construction plans to begin preliminary bridge layouts and wall designs. At a minimum, the partial set of plans will contain the horizontal and vertical geometry, roadway typical sections, environmental concerns, and any known constraints at the proposed bridge site. If at any time these design elements change, it is the Project Manager's responsibility to inform the Office of Bridge Design of such changes.

As a first step in preliminary bridge design, the Office of Bridge Design will confirm the Concept Report recommendations about each bridge site to determine the appropriate type of design (e.g., widening, replacement, new, etc).

A general description of the procedures for determining a bridge size for a given site is described in Appendix E. Priority attention will be given to providing preliminary roadway plans to the Office of Bridge Design as soon as possible whenever the project involves bridging a railroad or a railroad bridge. This is due to the fact that the process of obtaining railroad approval of preliminary layouts impacting their facilities requires a long lead time.

The following information is required for hydraulic and hydrological studies:

- Three sets of roadway plans, which include the cover sheet, typical section, and plan profile sheets. Data needed on these plans include the traffic data, roadway alignment data, and the accurate location of the existing bridges and culverts and, if applicable, benchmark information. Benchmarks should be located with project stations and offsets, along with descriptions and elevations. The stream traverse, showing the top of the stream banks and edge of water, should be plotted on the plan sheet.
- A completed hydraulic engineering field report is required for each site with a hard copy of all applicable survey data. The required survey data is specified in this field report. All survey data should be referenced in project stations and offsets. Information and survey data in Sections I and II of the field report are necessary for bridge replacements and new locations. Information and survey data in Sections I and III are required for bridge widening and paralleling projects.
- As specified in the field report, projects on new location require the project alignment to be accurately located on a USGS Quadrangle Map.

Hydraulic studies will be done utilizing the WSPRO or HECRAS program unless a FEMA regulated stream is involved. FEMA requires the use of the HEC2 program. Therefore, hydraulic studies involving FEMA regulated streams will be done utilizing both WSPRO or HECRAS and HEC2. All stream involvements, temporary and permanent, will be coordinated with the Office of Environment/Location. Any impacts will be discussed in the appropriate environmental document and where required, mitigation implemented.

Retaining wall and noise wall layouts will be done early in preliminary design and completed no later than the public hearing. It is important to determine the impact retaining walls will have on the proposed construction limits, right-of-way requirements, and environmental analysis. This is especially true where construction methods and wall systems will require temporary or permanent construction easements.

The Office of Bridge Design will request Bridge Foundation Investigations (BFI) upon approval of the preliminary bridge design and will also request foundation investigations for retaining and noise wall foundations upon approval of preliminary wall layouts.

## Office of Utilities

By Georgia statutes, utilities whether public or privately owned, aerial or underground, are permitted by the Department and local governments to be accommodated within the public ROW. To this end, the roadway designer needs to make every effort to design a project that will accommodate (and minimize impacts to) all existing utilities and new utilities to be constructed

concurrently with the project.

The utility plans are used as the primary tool to identify and resolve utility related conflicts/issues prior to beginning the construction of projects. Also, when these plans are properly developed as indicated in this manual, they will support the vital coordination required between the contractor and the utility owner during construction. Utility plans should include environmental resources.

- **Overhead Subsurface Utility Engineering (SUE)**

Utility information shown on the utility plans is obtained from either an Overhead/Subsurface Utility Engineering (SUE) investigation and/or the affected utility owner.

As soon as survey control is available, but no later than the first submission for utilities, the Project Manager and District Utilities Office will make a determination of need and send a request to the State Subsurface Utilities Engineer to employ a SUE investigation (Quality Level C/B-in-field utility survey). This request typically comes from the District Utilities Office after consultation with the Project Manager. (Please see the State Utilities Office website regarding the criteria and the request forms necessary to be completed and sent to the State Subsurface Utilities Engineer). Once approved, the State Subsurface Utilities Engineer will coordinate with the Designer and District Utilities Engineer to determine the scope of work for the SUE investigation. The State Subsurface Utilities Engineer will prioritize the project and assign a SUE consultant through a Task Order Services Contract. The Design Manager may be requested to provide an additional plot of the project base sheets, an electronic project topography file, the necessary control package, and help define the project limits for the SUE consultant.

After conferring with the Project Manager, the State Subsurface Utilities Engineer shall set the SUE consultant's schedule based upon the approved project schedule and the current status of the project. The existing utility information should be furnished to the Project Manager before the initial horizontal and vertical alignments are set, but no later than the field survey enhancements provided by the District to the Project Manager.

All utility field survey data will be collected in accordance with the requirements of the "Automated Survey Manual," as maintained by the Office of Environment/Location, and the data processed utilizing the "Survey Processing Guidelines," as maintained by the Division of Information Technology.

The State Subsurface Utilities Engineer shall provide the Project Manager with all utility information in the appropriate software formats when required.

As the preliminary design moves forward, many utility conflicts will become evident or

suspected. On the majority of projects where SUE has been employed, a Utility Impact Analysis Report will be produced. This report is generated by the Department's Subsurface Utility Engineering program to identify and provide avoidance alternatives for all potential utility conflicts found on the project. This report is typically provided to the Project Manager and the District Utilities Office before the PFPR, but not later than the FFPR. The Project Manager, District Utilities Engineer, and Office of Utilities will then identify as soon as possible areas that need test holes for the 3D picture of the conflict area. This request for test holes is recommended to occur immediately after the PFPR meeting, to ensure that all conflict areas are in accordance with the findings of the Field Plan Review Inspection Team.

- **Utility Relocation Plans**

Several decisions affecting utilities must be made in the plan development process, ideally at the concept stage, but no later than the early stages of preliminary design:

- Is GDOT or the local government funding the eligible utility relocation cost?
- Is GDOT or the local government to perform the relocation design for water and sewer?
- Is GDOT to put the water and sewer relocations in the construction contract?

The request for utility relocation plans and utility adjustment schedules, second submission for utility plans, must go to the respective utility owners. The Design Phase Leader will send updated base plan sheets or electronic files to the District Utility Engineer. This updated information will contain the plotted existing utility information, preliminary drainage (including longitudinal drainage) and erosion control plans, stage construction plans, bridge and wall locations with foundations, preliminary ROW and easement lines, strain and signal pole locations, cross sections, roadway profiles, and construction limits as set following the PFPR. The second request for utilities shall occur as soon as possible following approval of the PFPR Report approval.

Please note, it is necessary that the utility relocation plans and respective utility adjustment schedules provided by the respective utility owner be developed to account for the proposed project's staged construction. The District Utilities Office and the Design Phase Leader shall review the second submission relocation plans and the utility adjustment schedules accordingly to ensure that provisions are made to account for utility relocations that may affect the required ROW and project construction. All utility staging issues that need to be addressed should be documented in the project's FFPR report.

The final utility plans and respective utility adjustment schedules will be furnished to the Project Manager no later than three months before the FFPR.

- **Utility Agreements**

Utility Agreements are required on projects that involve a utility easement, utility ROW, or conflict with a utility that is claiming reimbursement via “Prior Rights.” The need for a utility agreement must be anticipated to avoid delaying the project. The District Utilities Office should have enough information to determine if a Utility Agreement will be required on a project after receipt of the first submission of roadway plans. Once there is an indication that such agreements will be required, the District Utilities Engineer will need to coordinate with the Project Manager and the State Utilities Office early in the preliminary design stage to ascertain the required information needed to furnish the utility owner in order that utility agreements can be negotiated. All utility agreements must be approved and signed before a project can be authorized for letting. This is usually ten (10) weeks before a letting for all projects.

- **Railroads**

The railroad coordination and the processing of railroad agreements can take several years. It is imperative that the crossing of any railroad or railroad ROW, including parallel encroachments, be identified early and coordination begun. The Office of Utilities will be notified immediately upon the recognition of any such railroad involvement.

The first plan submission to be used for railroad coordination should be submitted by the Design Phase Leader, to the Office of Utilities State Railroad Liaison, as soon as preliminary bridge plans and/or complete roadway, grading, drainage (including calculations) are available and immediately following the PFPR provided there are no major changes that impact the railroad as a result of the PFPR. The Design Phase Leader shall refer to the State Utilities Office website for the required Railroad Submittal checklist that needs to be completed and included with all railroad coordination submittals.

<http://www.dot.ga.gov/doingbusiness/utilities/pages/default.aspx>

The railroads will require complete roadway, grading, drainage, and bridge plans in order for them to schedule a review.

All railroad agreements must be approved and signed before a project can be authorized for letting. Projects must be certified ten (10) weeks before the letting.

## **Office of Traffic Operations (OTO)**

- The OTO in Support of Preliminary Plan Development

The OTO shall submit Microstation Design files of the preliminary Signing, Marking, and/or Signal plans to the Project Manager at least one month before the scheduled request for a

PFPR. The Design Phase Leader will incorporate the preliminary Signing, Marking, and/or Signal plans in the preliminary construction plans before the PFPR request is made.

The District Traffic Operations Office will provide Microstation files of the preliminary Signing, Marking, and/or Signal plans on Minor Projects.

- **OTO Interstate or Limited Access Roadways ITS projects**

Upon Concept Report approval, the preparation of preliminary plans will begin. The OTO will assemble a team consisting of at least a Project Manager and Design Phase Leader.

If additional mapping is needed, the Design Phase Leader should meet with the cartographer prior to beginning the mapping to discuss the project concept and the limits of required mapping. After all mapping has been received; the preparation of initial base sheets will be first priority. The initial base sheets must show existing right-of-way; the location of retaining walls, bridges, culverts, ditches, and channels; horizontal alignment of the mainline; location of existing railroad tracks and railroad ROW; ROW encroachment situations; and beginning and ending project limits. The Design Phase Leader will proceed with finalizing conduit routing and devices to be used. Conduit routing will run along the mainline, potentially on side roads, and to field device sites. Devices – such as CCTV and VDS – will be located within the project limits.

In some instances, it will be necessary for the conduit routing to be mounted to existing bridge structures. In these cases, the Design Phase Leader will provide all necessary information such as the horizontal geometry to the Office of Bridge Design for review. The Office of Bridge Design will develop plans for conduit attachment to bridge structures and will provide all attachment details and bridge plans to the Design Phase Leader to be included in the preliminary plans.

The preliminary plans will include a fiber allocation plan coordinated with the OTO Information Systems, OTO Maintenance, and OTO. The fiber allocation plan will be complete and clear, and will include all devices that require fiber optic cable hook-up. The fiber allocation plan will show comprehensive fiber routing from the field device to the fiber end point, either at a trunk cable, cabinet, hub, or the Traffic Management Center.

Network electronics will be included in the preliminary plans. Design of all network electronics is required in order to operate and communicate with field devices for a project. The Design Phase Leader will coordinate with OTO Information Systems, OTO Maintenance, and OTO in developing all network electronics necessary for the proper operation of all devices in a project. The Design Phase Leader will also identify all equipment necessary and their interaction with other devices so that the system will operate as described in the Concept Report.

Special provisions are required as part of the preliminary plans. Certain special provisions, such as for fiber optic cable and appurtenances, CCTV and VDS; have already been prepared by others and are available to the Design Team Leader. However, there are likely to be projects that have special situations that need further clarification and are not defined in currently available specifications. The Project Manager will be responsible for the development of all provisions and stipulations that require further detailed instructions that are not suitably shown or identified on the plan sheets.

Some ITS projects will require installation of changeable message signs (CMS). In projects where CMSs are determined to be needed and are called for in the Concept Report the Design Team Leader will have clearance diagrams developed for each CMS. The clearance diagrams will show all pertinent information pertaining to the overhead signs such as the sign dimensions, location, and distance above roadway surface. Efforts will be made to locate such devices at or near other structures to take advantage of the existing shielding.

When the preliminary plans have been sufficiently completed, an in-house preliminary plan review will be held. The preliminary design review package should be distributed three (3) weeks prior to the in-house review meeting and include: pole locations, camera positions, existing utilities, existing right-of-way, bridge attachments, sign structure locations, fiber allocation, network electronics, conduit routing, hub building placement, service points, and major quantities such as fiber, conduit, and devices. The in-house review will be made by the following team members: FHWA, Project Manager, OTO planners, OTO design staff, and consultants. Each team member will provide a thorough review of the preliminary design package suggesting ways for improvement, clarity and completeness. All comments made by team members will be addressed in writing by the Project Manager clarifying that the item noted has been updated or whether the item noted will not be updated because of a specific reason. Any changes to the approved concept will require a revised Concept Report. The Project Manager will prepare the revised Concept Report for review and approval.

The Project Manager must request a PFPR at least three (3) weeks prior to the need to hold a PFPR. The request for the PFPR will be made through the Office of Engineering Services a minimum of 32 weeks before contract letting. See below for the requirements for requesting and holding a PFPR.

The Office of Engineering Service will establish the required attendance for the PFPR. It is recommended that the following representatives attend the PFPR: OTO, OTO design staff, local government ITS representatives, Utilities, and project consultants.



## Office of Maintenance

Construction plans prepared by the Office of Maintenance requiring full size plans shall follow the same procedures as a Minor Project if Time Saving Procedures have been approved and will follow the same procedures as a Major Project if Time Saving Procedures have not been approved.

Resurfacing projects will require a FFPR be held with a field plan review report prepared. The field plan review report will be submitted to the Office of Engineering Services with the final plans for letting.

## Preliminary Field Plan Review (PFPR)

The Project Manager will request a Preliminary Field Plan Review (PFPR) for every construction project proposed to be let to construction by the Department or others.

The Office of State Aid will coordinate with the Office of Engineering Services to determine the need for a PFPR on their Major Projects. If it is determined that a PFPR is required, those projects will follow the requirements outlined below.

The Preliminary Field Plan Review should not be requested until the environmental document has been approved for the project. A letter from the Office of Environment/Location will be included in the PFPR request package stating that these conditions have been met. The Director of Program Delivery must approve any waivers of this requirement.

Written certification from the Office of Planning stating that the current design for the proposed project is in conformance with the adopted RTP or STIP when the project is located in a non-attainment area for air quality shall be included in the request for a PFPR.

The Project Manager will request a PFPR when the preliminary plans have been completed, including:

- Preliminary roadway plans
- Preliminary bridge and retaining wall.
- Preliminary right-of-way.
- Preliminary signing and marking.
- Preliminary signal plans.
- Preliminary utility plans.
- Preliminary landscaping plans for environmental mitigation.

- Preliminary Erosion and Sedimentation Control Plans.
- Preliminary Transportation Management Plan (if required).
- Stage construction

At the time plans are complete to the point of requesting a PFPR, the Project Manager shall bring current the benefit to cost analysis to ensure the project is still viable.

The PFPR request shall be accompanied by the complete set of preliminary plans and all draft special provisions that have a potential to affect the proposed required right-of-way, utility plans, or environmental issues. Any special provisions that address any unique or unusual features such as any experimental items or approved proprietary items will also be included.

Failure to provide adequate plans and all of the required information with the PFPR Inspection request will delay the scheduling of the inspection. See POLICIES AND PROCEDURES 2440-1 for more information on the requirements of the PFPR.

Preliminary Field Plan Review team members are expected to be familiar with the project, having reviewed the preliminary plans and specifications and environmental documents including environmental commitments prior to the inspection, and are expected to contribute meaningful comments during the review. It is critical that as many problems as possible be anticipated and resolved at this time to avoid costly rework at a later date. The PFPR is not a formality. It is an intense working and problem-solving session bringing to bear the expertise of the participants to resolve issues early in the design process and eliminate later rework because the issues were not settled earlier.

The Preliminary Field Plan Review team will review the plans and special provisions to determine the constructability of the proposed roadway, and because the PFPR occurs prior to the development of the final ROW plans, any part of the project design that determines the extent of the required ROW will be thoroughly reviewed.

The Office of Engineering Services will only schedule the PFPR when a complete PFPR Request is received. The Office of Engineering Services shall respond to the PFPR request within five (5) working days after receiving the request, either scheduling the event, or if the PFPR request is incomplete, requesting the additional required information. In their PFPR scheduling letter, the Office of Engineering Services will identify the PFPR Team and the participating offices and request the District to have all bridge endrolls staked for review and discussion at the PFPR. For Minor Projects, the Office of Engineering Services may ask the District Construction Engineer to schedule, conduct and prepare the PFPR Report.

The Design Phase Leader shall provide and ensure the appropriate sets of plans and special provisions are received by the PFPR Team at least four (4) weeks prior to the anticipated PFPR date.

The Office of Engineering Services shall conduct the review, prepare a written report including minutes of discussion and resolution and distribute the report. The Office of Engineering Services will obtain the approval of the FHWA on all Full Oversight projects before it distributes the report.

Distribution of the PFPR Report by Office of Engineering Services will constitute the end of Preliminary Design and the beginning of Final Design.

The Project Manager shall evaluate the comments from the PFPR. The preliminary plans will be appropriately modified to address the comments in the PFPR Report. Timely feedback to the Field Plan Review Team and the timely resolution of all field plan review issues is critical for continued coordination and smooth plan development among the various responsible parties. The Project Manager shall respond to the field plan review issues no later than four (4) weeks after the receipt of the approved report. It is not the intent at this time frame to require completion of all actions to correct or modify the preliminary plans. (It is intended that as many corrections be accomplished as possible but for those actions requiring considerable more time). The Project Manager will state in the response how it is intended to resolve and answer the comments. Responses to all PFPR comments will be written in full sentences and will clearly state the action taken or proposed to address the comment. If a comment requests a specific action and the Project Manager determines that no action or different action will be taken, the response should clearly explain the Project Manager's decision.

## Office of Transportation Data

- **The Office of Transportation Data in Support of Projects to Build or Relocate Sections of State Routes**

Per POLICIES AND PROCEDURES 3625-1, the Office of Transportation Data's Systems & Classification Branch shall coordinate with the appropriate entities and submit to the Commissioner, a plan to revise the State Highway System and, as appropriate, the U.S. Route System. To ensure the necessary processing of highway system revisions, after the PFPR is completed and it is determined by the Project Manager that the new State Route alignment will be non-contiguous to the existing State Route network, the Design Phase Leader will submit to the Office of Transportation Data a full-size cover sheet and a half-size set of plan and profile sheets. Any modifications in proposed route alignments will be submitted to the Office of Transportation Data as alignments are amended during the plan development process. The

direct link to PDF files, “Designer’s Manual – Georgia Highway System Administrative Review” is located on the OTD external website:

<http://www.dot.ga.gov/statistics/pages/default.aspx>

- **The Office of Transportation Data in support of projects involving rights-of-way acquisition by the Department**

To ensure compliance with the Official Code of Georgia Section 32-5-2, which pertains to the Department’s acquisition of rights-of-way, the Office of Transportation Data’s Systems & Classification Branch will process with local officials and the Department’s Commissioner the necessary highway system revisions to support preconstruction activities on a project. When it has been determined by the Project Manager the agreement of the Department to purchase ROW off the current State System, the Design Phase Leader will submit to the Office of Transportation Data a full-size cover sheet and a half-size set of plan and profile sheets. Further plans will be submitted to the Office of Transportation Data as alignments are amended during the PDP.

## CHAPTER 7: FINAL DESIGN

The final design stage of project development begins with the approval of the environmental document and the distribution of the Preliminary Field Plan Review Report (PFPR). Advancing a project to final design or the approval of Right-of-Way Plans prior to environmental approval may result in the forfeiture of Federal funds.

### Location and Design Approval

A Location and Design Report (L&D) and a Notice of Location and Design approval will be required for all projects. The Project Manager will prepare a L&D and a Notice of Location and Design Approval (Notice) for advertisement. For minor projects the L&D is typically included with the Concept Report. The Notice will be published within 30 days of location approval. See Appendix B for examples of these documents and what they should contain. For Minor Projects, L&D submission and approval is concurrent with the submission and approval of the Concept Report.

The final environmental document and the PFPR Report must be approved before the L&D report is submitted and approved. The Office of Environment/Location will notify the appropriate offices when the environmental document is approved and provide a copy of the approved document to the Project Manager.

### Federal Aid Design Approval

Approval of the final environmental document for Federal-Aid projects is considered Federal Location and Design approval. However, the processing and approval of a Location and Design Report and a Notice is required.

### State Funded Design Approval

The Location and Design approval date for major State-funded projects is the date of the Chief Engineer's approval of the Notice.

#### Location and Design Report and Notice - Processing and Approval -

- The report and notice will be submitted to the Program Control Administrator for review.
- The Program Control Administrator will route the report to the Director of Program Delivery for further review and a recommendation for approval.
- The Chief Engineer will then approve or disapprove the report.
- The Program Control Administrator will insert the approval date in the Notice and distribute the approved report and transmit the Notice to the District Office.
- The Notice will be published within 30 days of approval. See Appendix B for additional

requirements.

- The District Office will advertise the Notice in the local newspaper in which the Sheriff's announcements are carried. In accordance with Ga. Code Annotated 22-2-109(b), the Notice will be published once each week for four (4) weeks in the local newspapers in each county in which the project is located.

One of the items to be included with the L&D Report is a construction cost estimate for the project. The estimate is to be based on quantities derived from the preliminary plans. Item Mean Summary prices for items may be used only if they are applicable. The designer is expected to exercise judgment and initiative when preparing the cost estimate. The Program Control Administrator will send the L&D Report to the Office of Engineering Services for review and concurrence of the cost estimate before submitting the report to management.

The Program Control Administrator will be responsible for entries into the Department's Project Management System that show the approval of the L&D Report.

## Right-of-Way Plans Development

After the PFPR comments are resolved and Location and Design approval, the right-of-way plans will be completed in accordance with current Right-of-Way Office guidelines and the Plan Presentation Guide. The Right-of-Way Office maintains a checklist for the preparation of Right-of-Way plans and this checklist is available on [R.O.A.D.S.](#) The Project Manager and the Office of Environment/Location will review the right-of-way plans before submission to the Office of Right-of-Way for compliance with the approved environmental document, along with submission to the Office of Environment/Location outline changes made since PFPR. The right-of-way plans must be consistent with the approved environmental document or an environmental reevaluation must be performed. The Design Phase Leader will then submit the completed right-of-way plans to the Right-of-Way Office for review and approval. After first submission, Parcel numbers shall not change unless directed by the Office of Right-of-Way. *(Note: several reviews may be required for approval.)*

For Federally funded projects, the right-of-way plans shall not be approved until the final environmental document has been approved by the FHWA. FHWA must approve Right-of-Way plans prior to GDOT's approval. The environmental document must be reconsidered before funds are authorized. If no changes to the project have occurred and more than six (6) months have lapsed since the last approval, the NEPA team member shall process a "no change re-evaluation". If changes have been made, regardless of when the last approval occurred, the document shall be re-evaluated so that the approval matches the project plans prior the FHWA granting the authorization.

For State funded projects, the right-of-way plans can be approved and acquisition begun before the environmental document is approved. However, before the Location and Design Report can be approved, the environmental document must be approved by the Department.

Right-of-way plans will not be approved before Location and Design approval. In accordance with Ga. Code 22-2-109(b), the right-of-way plan's cover sheet will clearly show the date of Location and Design approval.

- **Right-of-Way Revisions**

For projects being designed by the Office of Road Design, Office of Urban Design, Bridge Design and the District Offices, the Design Phase Leader will be responsible for the revisions and the distribution. If a consultant is doing the work for these offices, then the Design Phase Leader working with the consultant will coordinate the changes and ensure the plans are distributed to the Office of Right-of-Way and the District office.

For projects being designed by the Office of Program Delivery, and Office of Innovative Program Delivery, the Department Project Manager will provide the Right-of-Way Team Leader with the consultant contact name and telephone number. The revision will then be worked out between the Right-of-Way Specialist and the consultant Project Manager. The Department Project Manager will ensure that the plans are distributed to the Office of Right-of-Way and the District office. The GDOT Project Manager shall ensure the DOT liaison is informed.

- **Right-of-Way Acquisition**

The Office of Right-of-Way will request right-of-way funds authorization when the right-of-way plans are approved of right-of-way revisions. Appraisal contracts will be prepared with particular attention given to those parcels involving relocations and any railroad parcels. Review of appraisals involving relocations and demolition contracts will also be given priority.

Once right-of-way plans are approved, a property owners' meeting will be held in accordance with the Department's rules and regulations. As outlined in the Department's Right-of-Way Manual, right-of-way acquisition procedures will follow Federal guidelines for acquisition regardless of whether Federal or State funds are used for acquisition. The direct link to PDF files, "Acquisition Guide for Local Public Agencies and Sponsors" is located at:

[http://www.dot.ga.gov/localgovernment/Documents/AcquisitionGuide\\_2008\\_10-23-08.pdf](http://www.dot.ga.gov/localgovernment/Documents/AcquisitionGuide_2008_10-23-08.pdf)

The Acquisition Manager shall not make any commitments until collaborating with the Project Manager. The Design Phase Leader, NEPA Specialist, Environment/Location Office and the

Design Office will be informed immediately of any changes to the approved right-of-way plans made as a result of the acquisition process.

Condemnation petitions shall contain the Location and Design approval date. Condemnations involving relocation and/or removal of improvements by a demolition contractor should be filed no later than 40 days prior to the project letting. This will provide for a 60-day relocation/legal possession period plus a 30-day standard demolition period to expire within the standard 50-day deferment clause included in all contracts. All other condemnations should be filed no later than 10 days prior to letting in order to fall within the 50-day clause.

Right-of-Way acquisition will continue during the time of final design and will be completed in accordance with the right-of-way certification schedule.

## **Final Plans Development**

During the final design phase of a project the right-of-way plans for the project are completed, required right-of-way and easements will be purchased, those permits needed for the project are being pursued, and the final construction plans are begun. Any changes to the construction plans that increase or decrease the required construction limits or any changes that may affect the environmental analysis or any changes to the approved right-of-way plans that increase or decrease the required right-of-way must be submitted to the Office of Environment/Location for possible reevaluation of the environmental document and permits. The Project Manager must keep all interested parties abreast of any significant changes to the plans that affect their area of responsibility (Environment, Right-of-Way, Structures, Utilities, District, etc.) as they are developed.

The Design Phase Leader will send the base plan sheets to the District Utility Engineer, second submission of utility plans, as soon as the existing utility information has been plotted and the project's footprint is verified or revised (e.g., after PFPR, desirably at the time of right-of-way plan approval, but no later than six (6) months before the scheduled FFPR), for the utilities' use in verifying the location of their existing facilities and incorporation of the final utility relocation information. Please see the above Utilities section for additional information regarding second submission utility plan requirements. The second submission of utility plans will contain the in-progress drainage plans, approved bridge and retaining wall approved layouts, and the location of any strain poles, traffic signals and overhead signs. The utility owners are expected to return the final utility plans to the District Utilities Engineer within 60 working days after receipt of this submission.

Upon receipt of the utility relocation plans, the Design Phase Leader will send a copy of the utility relocation plans to the Office of Environment/Location if they cause any additional right-of-way,



land disturbance outside of the construction limits already cleared environmentally, or impacts additional wetlands or streams. These utility relocation plans will also be provided to the Office of Bridge Design and the Office of Traffic Operations for their review and resolving any remaining conflicts.

A third submission of utility plans will be required only if there is a significant change in design that affects the utilities.

When appropriate, the Design Phase Leader will submit in-progress final construction plans to the Office of Traffic Operations after the PFPR comments have been addressed.

The Design Phase Leader will complete proposed flexible (asphalt) pavement designs for review and approval. If a rigid (concrete) pavement design is proposed the Design Phase Leader will request from the Office of Material and Research rigid pavement designs and the required Life Cycle Cost Analysis (LCCA) that are parts of a Pavement Type Selection process. The GDOT Pavement Design Manual provides guidance and procedure on pavement type selection, LCCA, and pavement design and approval for minor and major projects. The determination of minor and major projects in the GDOT Pavement Design Manual is not the same as in the Plan Development Process. Pavement design submittals from the Office of Program Delivery, Bridge Design, Innovative Program Delivery, Road Design and Urban Design are presented by that office's Pavement Design Committee (PDC) representative to the PDC for review and approval. Pavement design submittals from District design offices are sent to the State Pavement Engineer for review and approval. The State Pavement Engineer may elect to present District design office submittals to the PDC for discussion prior to approval. The GDOT Pavement Design Manual includes a pavement design submittal checklist for the supporting items and documents required as part of the submittal package. All proposed flexible and rigid pavement designs for a particular project should be included as one submittal.

Prior to final design beginning, and if the bridge condition survey is more than three (3) years old, the Project Manager should request an updated bridge condition survey from the Bridge Maintenance Section which may include final recommendations from Bridge Maintenance about sealing joints, painting the superstructure, repairing spalls, and other routine maintenance. If the project is a bridge replacement, then the Project Manager should contact the Bridge Maintenance Section to determine whether or not any material should be salvaged from the existing bridge.

The Office of Bridge Design and the appropriate Design Office will coordinate their project schedules such that final bridge plans will be received by the Project Manager or Design Phase Leader at least five (5) weeks before the scheduled date of request for the FFPR.

## Office of Utilities

### Utility Relocation Plans

All requests for utility relocation plans and utility adjustment schedules must go to the respective utility owners through the District Utilities Engineer.

### Utility Agreements

The District Utilities Engineer will coordinate with the Project Manager and the State Utilities Office early in the final design stage to ascertain the required information needed to furnish the utility owner in order that utility agreements can be negotiated.

### Railroads

The Project Manager shall refer to the State Utilities Office website for the required submittal checklist that needs to be completed and included with all railroad coordination submittals. The second plan submission to be used for railroad coordination should be submitted by the Project Manager, to the Office of Utilities State Railroad Liaison, as soon as final bridge plans and/or complete roadway, grading, drainage (including calculations) are available. In no case shall the second plan submission be performed before addressing the first railroad submittal comments. Additionally, this submittal shall be performed no later than the Final Field Plan Review Meeting. The direct link to PDF files, "GDOT Railroad Plan Submittal Checklist" is located at:

<http://www.dot.ga.gov/informationcenter/programs/safety/railroad/Pages/Coordination.aspx>

## Office of Traffic Operations

### The Office of Traffic Operations in Support of Final Plan Development

The Office of Traffic Operations shall submit Plans and Microstation Design files including quantities of the final Signing, Marking, and/or Signal plans to the Project Manager at least two (2) months before the scheduled request for a FFPR. The Design Phase Leader will incorporate the final Signing, Marking, and/or Signal plans in the final construction plans before the FFPR request is made.

The District Traffic Operations Office will provide Microstation files of the final Signing, Marking, and/or Signal plans including quantities to the Project Manager on Minor Projects.

### Office of Traffic Operations - Interstate or Limited Access Roadway ITS projects

The Concept of Operations must be completed prior to holding the FFPR. The final plans will include all changes to the Preliminary plans as discussed during the PFPR, completed special provisions, and summarizing all quantities for the pay items needed for the project. Before a FFPR is requested, a thorough in-house review will be performed to assure all items for a project are completely covered in the plans.

The final design in-house review package will be distributed three (3) weeks prior to the in-house review meeting. The in-house review team members are: FHWA, Project Manager, Office of Traffic Operations Fiber Technicians, Design Phase Leader, Office of Traffic Operations planners, Office of Traffic Operations design staff, and consultants. Each team member will provide a thorough inspection of the final design review package suggesting ways for improvement, clarity, and completeness. All comments made by team members will be addressed in writing by the Project Manager clarifying that the item noted has been updated or whether the item noted will not be updated because of a specific reason.

When the construction plans have reached 90 percent completion, the Design Phase Leader will request a FFPR for ITS projects. The final design review package will accompany the letter of request to the Office of Engineering Services.

The Project Manager will respond to FFPR comments by letter to the Office of Engineering Services and to FHWA, within 2 weeks of receiving the report with copies distributed to those attending the review.

## **Final Field Plan Review (FFPR)**

The FFPR should not be requested until the final construction plans, including checked quantities, and special provisions are completed. The FFPR should not be held later than 16 weeks prior to the project's management directed let date; therefore the Design Phase Leader should request the FFPR no later than 20 weeks before the management directed let date. It is desirable that the FFPR be held more than 16 weeks before the management directed let date.

The Design Phase Leader will submit a letter of request for a FFPR to the Office of Engineering Services. A complete set of construction plans (See [POLICIES AND PROCEDURES 2440-1](#) for requirements) and special provisions will accompany the letter of request to the Office of Engineering Services. In addition a letter from the Office of Environment/Location will be included in the FFPR request package stating the conditions in the environmental document and that the conditions of any environmental permits have been adequately addressed by the plans and specifications and an environmental reevaluation has been performed, if required. The Director of Program Delivery must approve any waivers of this requirement.

The Office of Engineering Services will determine the scope of the FFPR (e.g., full office and field review, office review only, email conference only, no FFPR required, or any combination thereof) and schedule, coordinate, and conduct the appropriate review. In some cases, the Office of Engineering Services may request the appropriate District Construction Office conduct the FFPR for those projects designed in the District or for Minor Projects.

The Office of Engineering Services will only schedule the FFPR when a complete FFPR request is received. Failure to provide adequate plans and all of the required information with the request will delay the scheduling of the inspection. The Office of Engineering Services shall respond to the FFPR request within five (5) working days after receiving the request, either scheduling the event, or if the FFPR request is incomplete, requesting the additional required information. In their Field Plan Review scheduling letter, the Office of Engineering Services will identify the FFPR Team and the participating offices and request the District to stake bridge endrolls only if they are different from those reviewed at the PFPR.

The Design Phase Leader shall provide and ensure the appropriate sets of plans and special provisions are received by the FFPR Team at least four (4) weeks prior to the anticipated FFPR date.

Final Field Plan Review Team members are expected to be familiar with the project, having reviewed the plans and specifications prior to the meeting, and are expected to contribute meaningful comments during the review. It is critical that all remaining problems be identified and resolved at this time to avoid costly amendments during advertisement and supplemental agreements on construction.

It is important that a representative of the right-of-way acquisition team (local government or GDOT) participate in the FFPR. The right-of-way representative will discuss signed options, special conditions negotiated with the property owners, and commitments made to date. Commitments made to property owners and contained in the options will be addressed: including the disposition of privately owned utility facilities, septic tanks, drain fields, and well and water systems. The right-of-way representative will also address the status of the acquisition, the projected date of completion of right-of-way acquisition, problems encountered during right-of-way acquisition, review the plans for inclusion of temporary easement expiration dates, and review the status of requested plan modifications and any condemnations.

It is important that a representative of the Office of Environment/Location participate in the FFPR. Any commitments made by permit or environmental document to protect or enhance the environment will be discussed at the FFPR. After the FFPR, any subsequent commitments made to protect the environment not addressed at the FFPR will be provided to the Project Manager immediately.

After the FFPR, one set of the right-of-way options will remain with the Area Engineer and the second set will be given to the Project Manager.

The Office of Engineering Services shall conduct the review, prepare a written report, including minutes and distribute the report within two (2) weeks of the review. The Office of Engineering Services will obtain the approval of the FHWA on all Full Oversight projects before it distributes the report.

Timely feedback to the Field Plan Review Team and the timely resolution of all field plan review issues is critical for continued coordination, smooth final plan development, and a successful letting as scheduled.

The Design Phase Leader will address all unresolved comments contained in the FFPR Report and the action taken or not taken will be reported in writing to the Office of Engineering Services no later than two (2) weeks after receipt of the approved FFPR Report and at least 12 weeks prior to the letting date. Responses to all comments will be written in complete sentences and will clearly state the action taken to address the comment. If a comment requests a specific action and the Project Manager determines that no action or a different action will be taken, the response should clearly explain the Project Manager's decision. Copies of the Project Manager's comments will be distributed to those attending the review.

A project will not be considered ready to let until all FFPR comments are addressed to the satisfaction of the State Project Review Engineer.

The Design Phase Leader shall submit Special Provisions Section 108.8 & 150.11 to the Office of Construction for their review after the FFPR, but prior to assembly of the final plan documents.

## **Supplemental FFPR**

Before letting a project in which the FFPR was conducted more than 2 years prior to the current Management Let Date, the Design Phase Leader shall request a Supplemental FFPR to the Office of Engineering Services. This request should be received so that the Supplemental FFPR can be held at least 16 weeks prior to the Management Let Date. All requirements shown in the "Final Field Plan Review (FFPR)" Section of the PDP shall be followed. The Office of Engineering Services, based on concurrence from the District Construction Office and the Design Phase Leader, may determine that a Supplemental FFPR will not be required but instead may initiate a thorough review of the Final Plans and contract documents.

## **Submission of Plans for Letting**

When all [FFPR](#) plans and special provisions comments have been addressed and resolved and the project cover sheet signed by the Design Office Head, District Engineer or Chief Engineer, the Project Manager will submit, at least ten (10) weeks prior to the proposed letting, half-sized final

construction plans, special provisions, soil reports, BFI's, electronic earthwork files, and the designer's cost estimate to the Office of Engineering Services for final review and the preparation of the Department's Engineer's Cost Estimate. The Chief Engineer shall sign the Erosion Control cover sheet. At the same time, the Project Manager will also submit to the Office of Construction Bidding Administration the final construction plans, special provisions, electronic earthwork files, soil reports, BFI's, required information for the Notice of Intent (NOI), the [Designer's Checklist](#), [Erosion Control Designer Certification](#), and the Designer's Cost Estimate.

A copy of the Designer's Cost Estimate is also sent at this time to the Office of Financial Management. The Designer's Cost Estimate will not solely be based on bid history data prices but will be prepared by the Project Manager utilizing professional judgment. This estimate is utilized by the Office of Financial Management for requesting authorization to let the project and must be as accurate as possible.

Plan Distribution List (see Appendix C)

Bid proposals are available online at the Office of Construction Bidding Administration's website (after advertisement). <http://www.dot.ga.gov/doingbusiness/contractors/Pages/default.aspx>

The Following Offices shall review:

- Office of Engineering Services.
- Office of Traffic Operations.
- Office of Bridge Design (for bridge projects only).
- Office of Materials and Research.
- Office of Construction.
- Office of Environment/Location.
- District Engineer.
- Design Offices.
- Chief Engineer, Bureau of Environmental Compliance.
- Program Delivery.

Each office shall review the proposal for errors and omissions and shall immediately report any discrepancies to the Office of Construction Bidding Administration.

For all Full Oversight projects (Major and Minor), the Office of Construction Bidding Administration will send the Plans, Specifications, & Estimates (PS&E) package to the FHWA no later than six and a half weeks before the proposed let date (nine calendar days before construction authorization). This PS&E package will contain half-sized final plans, proposal, engineer's estimate, Construction Work Authorization (prepared by the Office of Financial Management), and certification that all railroad

and utility agreements, right-of-way and environmental clearances (including Section 404 Permits and vegetative buffer variances) have been obtained.

The Design Phase Leader shall send the complete, original, final construction plans, as submitted to the Office of Construction Bidding Administration and officially revised, to the plan reproduction section of the Office of Road Design no later than five (5) weeks before the scheduled letting for printing for the letting.

## **Plans and Specifications Revisions after Submission for Letting**

Any changes to the plans and special provisions after plans have been signed by the Chief Engineer or his designee will be considered a revision and will be posted as such in the plans. See Appendix H for Plan Revision Procedures.

## **Right-of-Way Certification**

For Exempt projects, the District shall certify that all right-of-way has been obtained at least eleven (11) weeks prior to a project's letting. Minimum ten (10) weeks prior to the letting, the Office of Right-of-Way will certify to the Office of Engineering Services that the right-of-way is clear and provide the Project Manager with a copy of the Letter of Certification.

For full FHWA oversight projects, the Office of Right-of-Way will send the original letter of certification that the right-of-way is clear to the FHWA and provide a copy to the Office of Construction Bidding Administration a minimum of ten (10) weeks prior to letting. The Office of Construction Bidding Administration will include a copy of the letter of certification in the PS&E package submitted to the FHWA for authorization and provide a copy to the Project Manager.

## **Utility Certification**

For Exempt and State funded projects, the Office of Utilities and Railroads will certify to the Office of Engineering Services with a copy to the Office of Construction Bidding Administration and the Project Manager that the utilities and railroads are clear and required agreements are in-hand a minimum of ten (10) weeks prior to the letting.

For Full Oversight Projects, the Office of Utilities will provide the Office of Construction Bidding Administration with a copy of a letter of certification that the utilities and railroads are clear and required agreements are in-hand a minimum of ten (10) weeks prior to letting. The original letter of certification will be sent to the Office of Engineering Services. The Office of Construction Bidding Administration will include the letter of certification in the PS&E package submitted to the FHWA for authorization.

## Environmental Certification

The Office of Environment/Location will provide the Office of Engineering Services and the Project Manager with a copy of the letter of certification that the environmental approvals are current and that all environmental permits are in hand no later than ten (10) weeks prior to letting. For FOS projects, a copy of the letter of certification will be sent to the Office of Construction Bidding Administration. The Office of Construction Bidding Administration will include the letter of certification in the PS&E package submitted to the FHWA for authorization.

Environmental certification for State funded projects will only be required for those State funded projects that have been developed in accordance with Federal environmental policies, including an approved Federal environmental document. The Office of Environment/Location will certify to the Office of Engineering Services, at least ten (10) weeks prior to the letting that the environmental approvals are current and required permits are in hand. The Office of Environment/Location will provide the Office of Construction Bidding Administration and the Project Manager with a copy of a letter of certification.



## CHAPTER 8: DESIGN GUIDELINE EXCEPTIONS/VARIANCES

### Design Exceptions

Whenever a new construction or reconstruction project [this excludes maintenance resurfacing projects and resurfacing, restoration, and rehabilitation (3R projects)] contains design features which do not meet the current AASHTO publications, “A Policy on Geometric Design of Highways and Streets” (GREEN BOOK) and “The Policy on Design Standards - Interstate System”, as adopted by the FHWA, permission to retain the feature must be obtained. For interstate projects, the FHWA will be the agency, which grants design exceptions. For all other projects, both Federal and State funded, the Chief Engineer grants design exceptions. The following Controlling Criteria are required to meet the requirements of the above AASHTO publications:

- Horizontal alignment
- Lane width
- Shoulder width
- Vertical alignment
- Vertical grades
- Cross slope
- Stopping sight distance
- Superelevation rates
- Lateral offset to obstruction
- Design Speed
- Vertical clearance
- Bridge width
- Bridge structural capacity

In order to obtain a design exception, a formal request must be submitted using the form outlined in Appendix D, which contains the following information:

- Project Number, P.I. Number, description of work and type of area (residential, commercial, rural, etc.), concept, typical section, posted and design speed, and a location sketch map.
- A description of the design feature that does not meet the current policy. The state route mile point values for the beginning and the ending of the design feature must be included in this description.
- Base year and design year traffic including Average Daily Traffic (ADT) and Design Hourly Volumes (DHV) and percent trucks.
- The accident history for the most recent three (3) year period available, including a summary of the accident experience defined in general terms insofar as type, severity, contributing circumstances, and any other information necessary to describe what is happening at the

site, and a description of the accident experience which may be related to the substandard feature.

- Describe any other factors which can have an effect on the final recommendations, such as:
  - Compatibility with adjacent sections of unimproved road.
  - Probable time before increased traffic or other changed conditions will require reconstruction of this section of roadway.
  - Any safety enhancements (mitigation\*) that will be included in the project if the site is not constructed according to the Policy on Geometric Design of Highways and Streets and/or Policy on Design Standards - Interstate System requirements.
- A cost estimate of the right-of-way and construction necessary to build the roadway to the Policy on Geometric Design of Highways and Streets and/or Policy on Design Standards - Interstate System requirements.
- The designer of record must make a recommendation based on the data presented in the above items.

If any of the required information is not included in the design exception request, an explanation as to why the information is missing must be provided.

The Project Manager must route the design exception request as described in the following steps:

- Project Managers will submit their design exception request to the Office of Engineering Services under a cover letter or a route slip. (The Office of Bridge Design shall forward any design exception needed by the Bridge Design Office to the Project Manager for processing.) The information provided will include all supporting data needed for requesting the exception.
- The Office of Engineering Services will submit the design exception report to the Chief Engineer for projects not on the Interstate system. For projects on the Interstate System, the Office of Engineering Services will submit the design exception request to the FHWA.
- After this approval or disapproval, the request will be returned to the Office of Engineering Services for distribution. The original document will be sent to the General File with a copy to the Project Manager. The Project Manager will place a complete copy of the design exception in the project file. The Office of Engineering Services shall enter into the Department's Project Management System a record of the design exception.

The Design Phase Leader will prepare and submit design exceptions to the PM as soon as they are found to be necessary and the information and studies needed to justify the exception have been completed. Design exceptions will be processed prior to the completion of the right-of-way plans. For design exceptions identified during the concept phase on full oversight projects, FHWA requires the review and approval of the design exception prior to approval of the project concept. If a design

exception is identified on a full oversight project after FHWA has approved the concept, the design exception should be communicated to FHWA as early as possible.

\* For guidance, refer to FHWA publication Mitigation Strategies for Design Exceptions, July 2007.

## Design Variances

Whenever a new construction or reconstruction project contains nonstandard items that are not controlling criteria or which do not meet GDOT policy/guidelines, a Design Variance must be requested from the Chief Engineer. In order to obtain a Design Variance, a formal request must be submitted using the form outlined in Appendix D.

The procedure for routing the Design Variance Requests will be the same as for Design Exception Requests.

## CHAPTER 9: CONSTRUCTION

Construction can be defined as the execution and administration of the contract documents. At the construction stage, the contractor begins to perform the tasks detailed in the contract. The contractor is responsible for constructing the work as detailed in the contract documents while the GDOT team, led by the project manager, is responsible for ensuring that the terms of this construction contract, including changes, are fulfilled. To verify that those conditions are met, certain documentation is essential. The following highlights some of the activities, incidents, or requirements of the construction phase that become part of the project documentation.

### Construction Phase Includes:

- Material acceptance
- Construction Management System
- Assessment of liquidation damages
- Postponement of contract completion date
- Critical Path Method scheduling (WBS)
- Disputes and claims
- Change orders
- Project estimates
- Inspections

### Construction Authorization

For Full Oversight projects, the Office of Construction Bidding Administration will be responsible for submitting the Plans, Specifications & Estimate (PS&E) package to the FHWA for project authorization. The PS&E package will consist of the following information:

- Work Authorization Request - Furnished by the Office of Financial Management.
- Final set of signed plans (approved by the Chief Engineer) - Furnished by the Project Manager.
- Bid proposal which includes special provisions, contract provisions, and bid items - Furnished by the Office of Construction Bidding Administration.
- Right-of-Way Certification - Furnished by the Office of Right-of-Way.
- Designer's Estimate furnished by the Project Manager
- A statement indicating all necessary permits that are needed have been obtained or the status thereof:
  - U. S. Army COE 404 – Office of Environment/Location.
  - U. S. Coast Guard – Office of Bridge Design.

- Tennessee Valley Authority – Office of Environment/Location.
- Federal Emergency Management Agency – Bridge Design.
- Water Quality – Office of Environment/Location.
- Approved agreements with railroads, utilities, and municipalities, or status thereof -  
Furnished by the Office of Utilities and/or the Office of Financial Management.
- Environmental Certification – Furnished by Office of Environment/Location.

The information needed for the PS&E package is to be furnished by the various offices to the Office of Construction Bidding Administration no later than ten (10) weeks prior to the letting date.

The Office of Engineering Services processes the construction authorization for all Exempt projects. All necessary information needed for authorization by the Office of Engineering Services must be submitted no later than two (2) weeks prior to advertising. This information will include environmental clearance, utility certification, and right-of-way certification.

## Transition Conference

After a Major Project has been advertised for construction and before bids are taken, the District Construction Engineer responsible for constructing the project will confer with the Project Manager to determine if a Transition Conference is required. A Transition Conference should be held if the project required the acquisition of right-of-way, affects threatened & endangered species, historic or archaeological resources, unusual design features, special environmental permits, or there are unique issues the design team must share with the construction personnel that are not readily apparent from the plans and specifications. The District Construction Engineer will schedule a Transition Conference with the Area Engineer, Project Manager, Design Phase Leader, Right-of-Way Acquisition Manager, representative from the Maintenance Office, Office of Environment/Location Office, District Utilities Engineer, and District Traffic Operations Engineer. The purpose of the meeting is to provide for a clear understanding of the plan details and requirements in order to facilitate construction of the project. A schedule review is required with a sign-off Project Engineer and Project Manager.

The right-of-way representative will provide two (2) copies of the signed options and a summary of the special conditions negotiated with the property owners for review and discussion. Any commitments to property owners will be addressed. If a Transition Conference is not held, the right-of-way representative will provide two (2) copies of the signed options and a summary of the special conditions to the Area Engineer prior to the Preconstruction Conference.

Minor Projects will not normally have a Transition Conference.

## CAiCE and CADD DGN Files to Contractors

At the Preconstruction Meeting for an awarded project, the Project Manager shall provide the CAiCE GPS files and the DGN files associated with the project to the awarded low bid Contractor after all amendments have been included. The electronic files will be provided with the following disclaimer:

### CAiCE AND CADD DGN FILES

PI#  
PROJECT ACCOUNTING NUMBER  
COUNTY(IES)

Included are the CAiCE and CADD DGN files on the above referenced project.

The Georgia Department of Transportation ("GDOT"), is making the CAiCE and CADD DGN files available to Contractors in electronic format as requested by the Contractor. GDOT assumes no responsibility for the Contractor's use of these electronic files and does not assert any claim as to the accuracy of the files as provided. No claim will be considered if the Contractor relies on this information in its bidding or in its construction operations and finds that the data is inaccurate. The CAiCE and CADD DGN files are furnished FOR INFORMATION ONLY and furnishing these files does not constitute a change to the plans, specifications, or contract for this project. The contractor's attention is directed to Subsection 102.05 of the Standard Specifications, Examination of Plans, Specifications, Special Provisions, and Site of the Work, which requires the Bidder to examine the conditions to be encountered and to make their own interpretation of all data and information.

## Revisions to Projects between Authorization and Letting

See Appendix H for the procedures to be followed in making revisions to advertised projects.

## Revisions to Projects During Construction

The Project Manager should establish a liaison with the construction project engineer to work together to resolve construction problems that may arise due to design or site conditions. See Appendix H for the procedures in making changes on construction. GDOT personnel should charge any time spent working on engineering for a project that is under construction to the Construction project number, not the Preliminary Engineering project number. Once under construction, all additional engineering work is defined as "construction engineering".

## Pre-construction Conference and Coordination

The contractor awarded the contract has the responsibility to perform the work as detailed in the contract documents. Although it is the contractor's responsibility to perform within the scheduled milestones and for the agreed-upon cost, it is GDOT's responsibility to administer the contract. GDOT monitors, manages, and documents the contractor's activities to ensure compliance with the plans, proposal, and specifications. Conferences, meetings, and general coordination are tools of contract administration.

The primary goal of the pre-construction conference is to introduce all of the project participants and to discuss actions necessary for a successful start, execution, and completion of the contract work. The pre-construction conference provides a forum to convey details of mutual interest and concern about the execution of the contract documents. It allows the opportunity to clarify and respond to any questions or potential misunderstandings regarding the upcoming work to be performed. The project manager, with contractor input, coordinates the meeting details including the list of attendees and agenda topics. Following is a list of possible attendees.

- District and Area construction engineers
- Equal Employment Opportunity (EEO) personnel
- Environmental personnel
- Subcontractors and suppliers
- Participating agencies or any agency impacted, including FHWA
- Utility and railroad companies
- Maintenance
- Traffic Design & Safety

### Pre-Construction Conference Topics of Discussing

#### GDOT

- Project description.
- Announcement of the project manager and explanation of the person's authority.
- Change Order process including who has authority to approve change orders and to grant permission to proceed prior to change order approval.
- Contractor evaluation form.
- Proposal, special provisions, and general plan notes; agreement on their meanings.
- Contractor EEO responsibilities.
- Environmental permit requirements, waterway permits, and mitigation.
- Soil and erosion control responsibilities.
- All environmental commitments and associated plan notes.

- Right-of-way issues.
- Utility relocations
- Staging potential phases and utility conflicts.
- Railroad coordination, including any agreements between the contractor and the railroad.
- Any value engineering change proposals. (savings dispursed at end of construction)
- Disadvantaged Business Enterprise goals and tracking procedures.
- Post Construction Reviews.
- Request-for-Information process.
- Maintenance of Traffic issues and scheme.
- Environmental monitoring during construction.

**Contractor**

- Proposed start date.
- Name of the project superintendent.
- Project baseline schedule. WBS w/ critical path method.

**Post Construction Evaluation after Construction Phase Completion**

The purpose of these reviews would be to improve the Georgia Department of Transportation's (GDOT) design and construction processes by providing designer personnel the opportunity to review completed projects and to discuss aspects of the project with construction inspection/management personnel and the contractors building the project. These reviews should provide many benefits to the Department, including reducing recurring field changes and quantity overruns, improving constructability, evaluating traffic staging for future project implementation, utility impacts, and providing cross-functional training to all participants.

Foreknowledge of post construction evaluations encourages field observation during the construction phase regarding the functional and operational features of a project. These features would include anything that could either be duplicated because of superior performance or improved because of less than optimal performance on future project designs.

The basic process would address the following areas:

- ✓ First, the constructability issues of a completed project must be examined for effectiveness and efficiency. These issues primarily concern factors which may have affected the completion time, additional design and construction costs, environmental concerns, and work zone safety.
- ✓ Second, the project should be examined on how successfully it met the original need and purpose.



- ✓ Third, serve as a tool for the sharing of information between the construction phase and the design phase.
- ✓ Fourth, develop and provide highway contractors with clear, concise plans and specifications to successfully construct Department projects as intended.

**Goals & Objectives:**

The following goals have been developed in order to promote an effective and successful PCE process that would ultimately improve the quality of the Departments future construction bid packages.

- ✓ Improve the Department's design and construction processes by providing the design staff the opportunity to review completed projects and obtain actual construction phase feedback.
- ✓ Create a safe climate for open and candid dialogue ensuring that all attendees participate. No personalization, fault-finding, or blaming.
- ✓ That the final project as specified in the plans and specifications can be efficiently maintained over the life of the project.
- ✓ Foster a level of involvement by design personnel into the construction phase.
- ✓ Reduce construction phase costs by reducing recurring field change orders, plan revisions, extra work orders, claims, and constructability inconsistencies.
- ✓ Reduce environmental permit violations and or non-compliance occurrences.
- ✓ Improve contractor's productivity and streamline and or reduce construction phase schedules.
- ✓ Minimize the traveling public's inconvenience and intrusion.
- ✓ Provide valuable as-built information in preparation for future corridor improvements.
- ✓ Create a web based information portal for recording and sharing common constructability concerns.

\*See Appendix-M "PCE Guidance Tool" for use.

**Who Should Attend?**

The meeting invitation, initiated and lead by the GDOT Construction Project Engineer and include the following key personnel; GDOT Project Manager (GDOT Office of Program delivery); Prime Contractor, GDOT District Engineer, GDOT State Construction Engineer, GDOT District Construction Engineer, State Construction Office Liaison Engineer, the project GDOT Area Construction Engineer, FHWA Transportation Engineer, GDOT Engineering Services Manager, GDOT District Utility Engineer, GDOT District Maintenance Engineer, Design entity Project Manager, and the GDOT District Preconstruction Engineer. Others may be invited at the discretion of the Project Manager or the

District Construction Engineer, but both should keep in mind that the post construction evaluation is best conducted by a small working group, yet include the personnel most familiar with the Project.

**When to Hold Post Construction Evaluation Meeting:**

The PCE meeting should be conducted within 60 days after construction is substantially (98%) complete. Construction personnel frequently are reassigned to projects relatively quickly and geographically constraining, therefore, it is beneficial to coordinate such a meeting as close to completion as possible.

**Which Projects need a Post Construction Evaluation?**

Project review requests or recommendation should be allowed to come from more than one source; however will most likely come from the GDOT Project Manager (GDOT Office of Program Delivery), Project Design Manager, GDOT District Engineer, or the GDOT District Construction Engineer.

Projects that will benefit from a PCE contain complex staging components, significant earthwork conditions near live traffic, intense utility relocations, extraordinary environmental circumstances, involved drainage systems, on-site maintenance of traffic conditions, and exceptional daily traffic volumes. Typical project types that will benefit the most from a post construction review include PDP classified “Major” projects, bridge replacements, drainage improvements, and widening and reconstruction type projects. Another metric that should be utilized to determine whether or not to conduct a PCE is the number of supplemental agreements processed and/or the total dollar amount approved during the life of a project.

*The Department’s State Construction Manual, as well as the FCM Manual, should be revised to include the Post Construction Evaluation recommendation criteria in order that Construction personnel may initiate such opportunity.*

**Meeting Location:**

The PCE meeting should be held at a local GDOT Area Office and culminate with the project being driven and walked in a logical order.

**Documentation:**

The GDOT Project Manager (GDOT Office of Program Delivery) is responsible for keeping minutes of the discussion and getting concurrence (via email or signature) on the minutes from the GDOT District Construction personnel as well as Contractor / Subcontractor’s who attended the evaluation. The minutes should note any action items from the meeting and then sent to all who attended the review and placed in the project file.

The GDOT Office of Engineering Services shall be responsible for keeping the PCE report as well as disposition of items contained in the reports in a centralized location (GDOT ftp site) that is accessible to both internal and external customers and shall be stored by P.I. Number. Use of all documents saved to the GDOT ftp site shall be announced and made available as part of future training sessions.

## **Final Acceptance**

The project manager should notify the District/Project Engineer when all of the engineer's punch list items are complete. Then, the Project Engineer will inspect the project for approval. If there are any outstanding minor work items, then the inspector provides these items on a punch list to the contractor. The contractor must complete the punch list and all necessary documentation before receiving the inspector's final approval. The inspector's approval and all necessary documentation from the contractor are necessary for final acceptance and payment.

## CHAPTER 10: PROJECT MANAGEMENT SYSTEM

The Department's Preconstruction Project Management System, TPro, incorporates project management, funds management, resource management, and preconstruction activity planning. TPro is a sophisticated system for establishing, maintaining, analyzing and improving project scheduling, schedule adherence, and project delivery to maximize the utilization of GDOT resources and revenues.

### Pre-Construction Project Team

The Project Manager is responsible for the development of an identified project from concept stage through project closeout. The Project Team is composed of individuals assigned by the Project Manager that possess the various skills necessary to complete the development of a project from concept through project closeout. The Project Team will be led by the Project Manager and will be supported by the Project Team members.

The Project Team will consist of the following personnel:

- Project Manager
- Design Phase Leader (May be Consultant)
- Environmentalist
- Right-of-Way Phase Leader
- Bridge Design Phase Leader
- Geotechnical Phase Leader
- Traffic Design Phase Leader
- Utilities Phase Leader
- Construction Phase Leader
- Maintenance
- Planning

The Project Team membership does not preclude the use of specialty team members on a project by project basis as needed (i.e. construction liaison, engineering services personnel, etc).

The Project Manager will conduct regularly scheduled Project Team meetings to review the active and upcoming projects assigned to the Project Manager. Project Teams will meet, at a minimum, quarterly, more often, if necessary. Activities in the meetings will include: discussing the active and upcoming projects, discussing resources available and possible resource needs, and using TPro schedules (scheduled start and finish dates) to set team member activities and goals for the month.

Attendance for Project Team members is mandatory. The Project Manager can give prior consent for an absence, but a written report of the activities accomplished must be provided. The Project Manager will also meet on certain projects as needed to meet the schedule.

Each team member will report the status of the activities assigned to them at each meeting and update their TPro fields.

The Project Manager will use the Project Tracking Form to document the commitments and completion of tasks by the Project Team members. The Project Manager will use the Team Member Evaluation Form for assessing the success/failure of Project Team members and reporting to their unit supervisors. This assessment will occur quarterly to be incorporated in the Team Member's Performance Evaluation. The direct link to the Project Tracking Form is: [http://topps/homeoffs/preconstruction/preconstruction-office/pti/blank\\_pm\\_teamactivities.xls](http://topps/homeoffs/preconstruction/preconstruction-office/pti/blank_pm_teamactivities.xls)

## **TPro's Benefits to Project Managers**

The Department's Construction Work Program includes thousands of active transportation projects with ongoing preconstruction activities. Project Managers are responsible for directing many projects simultaneously through the plan development process and the resources and employees needed to complete the work are often managed and located in other offices. TPro will provide the Project Manager with accurate, up-to-date, and detailed information in all phases of the Plan Development Process. TPro will also provide a resource balanced work plan for all scheduled project activities. TPro is designed to provide GDOT project schedulers, Project Managers and preconstruction personnel with tools that would help them:

- Effectively and actively communicate a large volume of critical project information with a reasonable amount of effort.
- Coordinate with each other about project status and resources utilization.
- Analyze project scheduling and resource utilization to improve these business functions.

The challenge of managing a large number of projects is compounded by the reality that the Department's Construction Work Program is constantly modified due to changing priorities, funding considerations, political considerations, project developments, and new work practices. With TPro, the Department will be better equipped to analyze, respond, and adapt in the fluid arena in which projects are developed. Using detailed, resource-balanced schedules for all project activities allows the Department's management to set project priorities and attainable funding goals. TPro insures project shifts will not be the result of inaccurate scheduling or overextended resources.

## **Project Manager's Responsibilities in TPro Schedule Maintenance**

The accuracy of project schedules is imperative to the effectiveness of the project management system. This management tool is only as good as the information it contains. Project Managers and Team Members are referred to the TPro manual for specific guidance.

Project Managers must verify the baseline schedules of their projects are reasonable and correct. This includes checking the resources assigned to the project as well as checking the scheduled activities. Even if the baseline schedule is correct, changes may be needed during the preliminary engineering phase as more detail is generated about a project. For example, activities such as a VE study may need to be added to the schedule because they were not anticipated when the baseline schedule was developed. Likewise, activities may need to be deleted from the schedule because more detailed information gathered at a later date indicated they were not needed.

Project Managers should contact the State Scheduling Engineer with any proposed changes to critical schedule activities, activity duration, or activity resources as soon as the information is available. Depending upon the significance of the impact the proposed change will have on the project schedule, as well as the entire Construction Work Program, the State Scheduling Engineer will either incorporate the changes into the project schedule or will present the changes to the Schedule Review Committee for their review and recommendations to the Director of Program Delivery.

Project Managers must ensure the progress of the scheduled project activities are reported, maintained, and updated regularly, at a minimum every two (2) weeks (desirably once a week). Reporting activity progress benefits more than just the project in question. Many of the project's activities are related to, or are affected by, the progress of other projects because all of the Department's projects rely on many of the same resources. Up-to-date and accurate progress reporting is necessary to prevent inaccuracies in scheduled start and finish times for activities throughout the Construction Work Program.

## **TPro's Benefits to the Department's Construction Work Program**

The same type of communication, coordination, and prioritization needed at the Project Manager level is also required at the statewide level for the entire Construction Work Program. TPro allows for multiple projects scheduling that identifies planned start and planned finish dates for each activity in the Construction Work Program. Completing each activity by its scheduled finish date will ensure that the project remains on schedule, and will ensure that other projects in the Construction Work Program that utilize the same resources will also remain on schedule.

New projects cannot be initiated unless current projects are progressing or are completed, releasing resources. This may be because the employees needed are still working on other projects, or it may be because a project is really one part of a larger project. For example, a bridge may be needed before a road can be completed.

TPro's multiple projects scheduling system has simulation capabilities to model different scheduling alternatives in response to changes in the Construction Work Program. Using simulation allows management to quantify the probable result of a change without impacting current schedules. The Department can then evaluate potential actions and choose the best approach. The system also allows for monitoring of the actual amount of time and resources expended on a project. This data can be used to monitor the actual performance project development and to improve the accuracy of future project schedules.

## **APPENDICES**



## APPENDIX A: Concept Reports

To assist the Project Manager in completing the Concept Report, the following information is herein provided:

**A. Full Oversight (FOS)/Exempt/State Funded (SF)** - The designations for Full Oversight and Exempt are provided in coded form in The Department's Project Management System under the field labeled "Exempt". The reference to Exempt projects under this definition does not refer to Air Quality exempt projects. These designations relate to federally funded projects only. The SF designation is to be selected for projects for which state funds, such as EDS or MLP, are programmed.

**B. Plan Development Process (PDP) Classification and Time Saving Procedures** - Projects are Plan Development Process (PDP) classified as either Major or Minor Projects.

- A Major Project is one for which Time Saving Procedures are not appropriate. A Public Hearing Open House or Opportunity for a Public Hearing Open House, and Location and Design approval are required. A Major Project requires the acquisition of significant amounts of right-of-way, substantially changes the functions of the facility being improved, has a significant impact on abutting property, has significant changes in travel patterns, or has significant social, economic, or environmental effects.
- For a Minor Project, Time Saving Procedures are appropriate. When the concept for a Minor Project is approved, the Location and Design for the project is approved. For this reason the "Other Alternates Considered" section of the Concept Report will be carefully considered and the recommended concept justified.

### Federal Agencies to Invite to Concept Meetings

The Project Manager will extend an invitation, as appropriate, to the following Federal Agencies to attend the Concept Meeting:

Division Administrator  
Federal Highway Administration  
61 Forsyth Street, SW  
Suite 17T100  
Atlanta, GA 30303

Regional Administrator  
Federal Transit Administration  
61 Forsyth Street, SW  
Suite 17T50  
Atlanta, GA 30303

The Office of Environment/Location will extend an invitation, as appropriate, to the following

Federal Agencies to attend Concept Meetings:

Chief of Wetlands Regulatory Section  
Environmental Protection Agency  
345 Courtland Street, NE  
Atlanta, GA 30365

Chief of Regulatory Functions Branch  
U.S. Army Corps of Engineers  
P.O. Box 889  
Savannah, GA 31402

U.S. Department of the Interior  
Fish and Wildlife Service  
Room 334, Federal Building  
801 Gloucester Street  
Brunswick, GA 31520

National Marine Fisheries Service  
Habitat Conservation Division  
P.O. Box 12607  
Charleston, SC 29422

EPA  
Region IV  
345 Courtland Street  
Atlanta, GA 30365

**Example Concept Report Transmittal Letter****DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

FILE	<i>PI Number and County</i>	OFFICE
	<i>Project Number</i>	
	<i>Project Description</i>	DATE
FROM:		<i>Office Head</i>
TO:		<i>Program Control Administrator</i>
SUBJECT	Project Concept Report	

Attached is the original copy of the Concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

*Distribution:*

- For those concepts prepared in the District:
  - Project Review Engineer*
  - State Environmental/Location Engineer*
  - State Traffic Operations Engineer*
  - State Transportation Planning Administrator*
  - State Transportation Financial Management Administrator*
  - State Bridge Design Engineer (only for those projects that involve structures)*
- For those concepts prepared at the Office of Environment/Location:
  - Project Review Engineer*
  - State Traffic Operations Engineer*
  - State Transportation Planning Administrator*
  - State Transportation Financial Management Administrator*
  - State Road Design Engineer or State Urban Design Engineer*
  - District Engineer*
  - State Bridge Design Engineer (only for those projects that involve structures)*
- For those concepts prepared in the Office of Road Design, Office of Urban Design, Office of Innovative Program Delivery, Office of Program Delivery, or Office of Traffic Operations:
  - Project Review Engineer*
  - State Environmental/Location Engineer*
  - State Traffic Operations Engineer*
  - State Transportation Planning Administrator*
  - State Transportation Financial Management Administrator*
  - District Engineer*
  - State Bridge Design Engineer (only for those projects that involve structures)*

## Example of a Concept Report

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA***Office***PROJECT CONCEPT REPORT**

Project Number: \_\_\_\_\_

County: \_\_\_\_\_

P. I. Number: \_\_\_\_\_

Federal Route Number: \_\_\_\_\_

State Route Number: \_\_\_\_\_

*Regional or Wide area location sketch and Project  
Description*

Recommendation for approval:

DATE \_\_\_\_\_

\_\_\_\_\_  
Consultant (if applicable)

DATE \_\_\_\_\_

\_\_\_\_\_  
Local Government (if applicable)

DATE \_\_\_\_\_

\_\_\_\_\_  
Design Phase Office Head (if applicable)

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Manager

DATE \_\_\_\_\_

\_\_\_\_\_  
Office Head/District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Financial Management Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environmental/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Operations Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
District Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Other Offices as required such as; Bridge Design, Road Design,  
Urban Design, etc.

Project Concept Report page \_\_\_\_\_  
Project Number:  
P. I. Number:  
County:

Include a project location sketch or map sufficient to locate the project and its beginning and ending points.

Project Concept Report page \_\_\_\_\_  
Project Number:  
P. I. Number:  
County:

**Need and Purpose:** As provided by the Office of Planning or the District Planning and Programming Engineer, at a minimum a brief paragraph stating the problem and recommended solution.

**Description of the proposed project:** Includes the proposed length of the project, beginning and ending mile logs for each county segment, and a general location of the project including any city and county limits or proximity thereto. Also include a brief discussion about the logic for establishing the termini and how the concept proposes to satisfy the Need and Purpose. If an ITS Project, summarize the Concept of Operations briefly.

**Is the project located in a PM 2.5 Non-attainment area?** \_\_\_\_\_ Yes \_\_\_\_\_ No

**Is this project located in an Ozone Non-attainment area?** \_\_\_\_\_ Yes \_\_\_\_\_ No

*If yes to either, provide a comparison between the proposed project concept and the conforming plan's model description. Include such features as project limits, number of through lanes, proposed open to traffic year, etc.*

**PDP Classification:** Major \_\_\_\_\_ Minor \_\_\_\_\_

**Federal Oversight:** Full Oversight ( )    Exempt ( )    State Funded ( )    or Other ( )

**Functional Classification:** \_\_\_\_\_

**U. S. Route Number(s):** \_\_\_\_\_ **State Route Number(s):** \_\_\_\_\_

**Traffic (AADT):**

Base Year: (20XX) \_\_\_\_\_ Design Year: (20YY) \_\_\_\_\_

**Existing design features:**

- Typical Section: (Describe number & width of lanes, medians, turn lanes, curb & gutter, sidewalks, etc.)
- Posted speed \_\_\_\_\_ mph      Minimum radius for curve: \_\_\_\_\_
- Maximum super-elevation rate for curve: \_\_\_\_\_
- Maximum grade: \_\_\_\_\_ % (List mainline, cross roads, and driveways)
- Width of right-of-way: \_\_\_\_\_ ft.
- Major structures: (List all bridge structures including length, width, structure identification number and sufficient rating).
- Major interchanges or intersections along the project.
- Existing length of roadway segment and the beginning mile logs for each county segment. For new location projects, the existing length of roadway is zero (0).
- If an expansion or add-on to an existing ITS system (such as NaviGator), identify physical limits of field device location and/or brief explanation of new features.

**Proposed Design Features:**

- Proposed typical section(s): (Describe number of lanes, width of lanes, medians, turn lanes, curb and gutter, sidewalks, etc.)
- Proposed Design Speed Mainline \_\_\_\_\_ mph
- Proposed Maximum grade Mainline \_\_\_\_\_ %
- Maximum grade allowable \_\_\_\_\_ %
- Proposed Maximum grade Side Street \_\_\_\_\_ %
- Maximum grade allowable \_\_\_\_\_ %
- Proposed Maximum grade driveway \_\_\_\_\_ %
- Proposed Maximum degree of curve \_\_\_\_\_
- Maximum degree allowable \_\_\_\_\_
- Maximum superelevation rate \_\_\_\_\_
- Right-of-Way:
  - Width \_\_\_\_\_
  - Easements: Temporary ( ) Permanent ( ) Utility ( ) Other ( ) .
  - Type of access control: Full ( ) Partial ( ) By Permit ( ) Other ( ) .
  - Number of parcels: \_\_\_\_\_ Number of displacements: \_\_\_\_\_
    - Business: \_\_\_\_\_
    - Residences: \_\_\_\_\_
    - Mobile homes: \_\_\_\_\_
    - Other: \_\_\_\_\_
- Structures:
  - Bridges (*Describe location and estimated width*), include sufficiency rating
  - Retaining walls (*Describe alternates*)
- Major intersections, interchanges, median openings and signal locations. (List median openings indicating if existing and/or proposed. Attach Signal Warrant study for proposed signal locations.
- For ITS projects identify physical limits of field device location, location of any control centers and/or brief explanation of new features.
- Transportation Management Plan Anticipated: Yes ( ) No ( )
- Design Exceptions to controlling criteria anticipated:

	<u>YES</u>	<u>NO</u>	<u>UNDETERMINED</u>
HORIZONTAL ALIGNMENT:	( )	( )	( )
LANE WIDTH:	( )	( )	( )
SHOULDER WIDTH:	( )	( )	( )
VERTICAL GRADES:	( )	( )	( )
CROSS SLOPES:	( )	( )	( )
STOPPING SIGHT DISTANCE:	( )	( )	( )
SUPERELEVATION RATES:	( )	( )	( )
VERTICAL ALIGNMENT:	( )	( )	( )
SPEED DESIGN:	( )	( )	( )
VERTICAL CLEARANCE:	( )	( )	( )
BRIDGE WIDTH:	( )	( )	( )
BRIDGE STRUCTURAL CAPACITY:	( )	( )	( )
LATERAL OFFSET TO OBSTRUCTION:	( )	( )	( )

*This area of the Concept Report is for the indication of potential deviations from the controlling criteria followed by the Department. A brief description of the potential deviation should be included in the report. A design exception must be granted for design exceptions.*

- Design Variances (List design variances anticipated).
- Environmental concerns - Describe anticipated permits (Section 404, TVA, Water quality, etc.), ust's, hazardous waste sites, history, archaeological, etc.)
- Anticipated Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ( ) No ( )
  - Categorical exclusion anticipated ( )
  - Environmental Assessment/Finding of No Significant Impact anticipated (FONSI) ( )
  - Environmental Impact Statement (EIS) ( )
- Utility involvements: (Communications, Power, Gas, Petroleum, ITS, Railroads, etc.)
- VE Study Anticipated Yes ( ) No ( )
- Benefit/Cost Ratio \_\_\_\_\_

**Project Cost Estimate and Funding Responsibilities:**

	PE	ROW	UTILITY	CST	MITIGATION
By Whom					
\$ Amount					

**Project Activities Responsibilities:**

- Design: \_\_\_\_\_
- Right-of-Way Acquisition: \_\_\_\_\_
- Right-of-Way funding (real property): \_\_\_\_\_
- Relocation of Utilities: \_\_\_\_\_
- Letting to contract: \_\_\_\_\_
- Supervision of construction: \_\_\_\_\_
- Providing material pits: \_\_\_\_\_
- Providing detours: \_\_\_\_\_
- Environmental Studies/Documents/Permits: \_\_\_\_\_
- Environmental Mitigation: \_\_\_\_\_

**Coordination**

- Initial Concept Meeting date and brief summary. (Attach minutes, if required)
- Concept meeting date and brief summary. (Attach minutes, if required)
- P A R meetings, dates and results. (Attach minutes, if required)
- FEMA, USCG, and/or TVA.
- Public involvement. *(List coordination meetings with citizen groups, public officials, and public hearings and public information open house. Give a brief summary of the significant meetings and the results and decisions as a result thereof)*
- Local government comments. *(Give a brief summary and attach minutes)*
- Other projects in the area.
- Railroads. *(Discuss the ownership and the future use of the railroad)*
- Other coordination to date.



**Scheduling – Responsible Parties’ Estimate**

- Time to complete the environmental process: \_\_\_\_\_Months.
- Time to complete preliminary construction plans: \_\_\_\_\_Months.
- Time to complete right-of-way plans: \_\_\_\_\_Months.
- Time to complete the Section 404 Permit: \_\_\_\_\_Months.
- Time to complete final construction plans: \_\_\_\_\_Months.
- Time to complete to purchase right-of-way: \_\_\_\_\_Months.
- List other major items that will affect the project schedule: \_\_\_\_\_Months.

**Other alternates considered:** (Describe each alternate in summary and reasons why it was eliminated. If eliminated, ensure environmental analysis is in agreement)

**Comments:** As appropriate

**Attachments:**

1. Detailed Cost Estimates:
  - a. Construction including Contingencies, Engineering and Inspection.
  - b. Right-of-Way.
  - c. Utilities.
  - d. Environmental Mitigation (EPD, etc)
2. Sketch location map.
3. Typical sections.
4. Accident summaries.
5. Traffic diagrams.
6. Capacity analysis summary.
7. Summary of Signal Warrant Studies
8. Bridge inventory.
9. Minutes of Concept meetings.
10. Minutes of any meetings that show support or objection to the concept.
11. PFA's and/or SAA's.
12. Location and Design Notice. (On Minor Projects)
13. Conforming plan's network schematics showing thru lanes. (Note: This attachment is required for non-attainment areas only)
14. Other items referred to in the body of the report.
15. Benefit Cost Analysis.
16. Completed Fuel/Asphalt price adjustment form.

**Exempt projects**

Concur: \_\_\_\_\_  
Director of Preconstruction

Concur: \_\_\_\_\_  
Director of Program Delivery

Approve: \_\_\_\_\_  
Chief Engineer

**OR**

**Full Oversight projects**

If the project has full Federal oversight, the signature blocks should include the following:

Concur: \_\_\_\_\_  
Director of Preconstruction

Concur: \_\_\_\_\_  
Director of Program Delivery

Approve: \_\_\_\_\_  
Division Administrator, FHWA

Approve: \_\_\_\_\_  
Chief Engineer

Project Number:

P. I. Number:

County:

## CONCEPT

### SCORING RESULTS AS PER POLICIES AND PROCEDURES 2440-2

<b>Project Number:</b>	<b>County:</b>	<b>PI No.:</b>
<b>Report Date:</b>	<b>Concept By:</b>	
	DOT Office:	
<input type="checkbox"/> CONCEPT		
	Consultant:	
<b>Project Type:</b> Choose One From Each Column	<input type="checkbox"/> Major <input type="checkbox"/> Minor	<input type="checkbox"/> Urban <input type="checkbox"/> Rural
		<input type="checkbox"/> ITS <input type="checkbox"/> Bridge <input type="checkbox"/> Building <input type="checkbox"/> Interchange <input type="checkbox"/> Intersection <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous
<b>FOCUS AREAS</b>	<b>SCORE</b>	<b>RESULTS</b>
Presentation		
Judgment		
Environmental		
Right-of-Way		
Utility		
Constructability		
Schedule		

**APPENDIX A-1: Revised Project Concept Report Transmittal Letter****DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

FILE	<i>PI Number and County</i>	OFFICE
	<i>Project Number</i>	
	<i>Project Description</i>	DATE
FROM:	<i>Office Head</i>	
TO:	<i>Program Control Administrator</i>	
SUBJECT	<i>Revised Project Concept Report</i>	

Attached is the original copy of the Revised Concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

*Provide a brief description of the significant changes in the concept and the reasons for the changes.*

The revised concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

*Distribution:*

- For those concepts prepared in the District:
  - Project Review Engineer*
  - State Environmental/Location Engineer*
  - State Traffic Operations Engineer*
  - State Transportation Planning Administrator*
  - State Transportation Financial Management Administrator*
  - State Bridge Design Engineer (only for those projects that involve structures)*
- For those concepts prepared at the Office of Environmental/Location
  - Project Review Engineer*
  - State Traffic Operations Engineer*
  - State Transportation Planning Administrator*
  - State Transportation Financial Management Administrator*
  - State Road Design Engineer or State Urban Design Engineer*
  - District Engineer*
  - State Bridge Design Engineer (only for those projects that involve structures)*

- For those concepts prepared in the Office of Road Design, Office of Urban Design, Office of Innovative Program Delivery, Office of Program Delivery, Office of Bridge Design, or Office of Traffic Operations:
  - Project Review Engineer*
  - State Environmental/Location Engineer*
  - State Traffic Operations Engineer*
  - State Transportation Planning Administrator*
  - State Transportation Financial Management Administrator*
  - District Engineer*
  - State Bridge Design Engineer (only for those projects that involve structures)*

**Example of Revised Concept Report****REVISED PROJECT CONCEPT REPORT**

**Need and Purpose:** *As provided by the Office of Planning or the District Planning & Programming Engineer*

**Project location:** *Includes the proposed length of the project, beginning and ending mile logs for each county segment, and a general location of the project including any city and county limits or proximity there to.*

**Description of the approved concept:**

**PDP Classification:** Major \_\_\_\_\_ Minor \_\_\_\_\_

**Federal Oversight:** Full Oversight ( ), Exempt ( ), State Funded ( ), or Other ( )

**Functional Classification:**

**U. S. Route Number(s):**

**State Route Number(s):**

**Traffic (AADT) as shown in the approved concept:**

Base Year: \_\_\_\_\_ Design Year: \_\_\_\_\_

**Updated traffic data (AADT):**

Base Year: \_\_\_\_\_ Design Year: \_\_\_\_\_

**Approved Programmed/Schedule:**

P.E. \_\_\_\_\_ R/W: \_\_\_\_\_ Construction: \_\_\_\_\_

**VE Study Required** Yes ( ) No ( )

**Benefit/Cost Ratio** \_\_\_\_\_

**Is the project located in an Ozone Non-attainment area?** Yes ( ) No ( )

**Is the project in a PM2.5 Non-Attainment area?** Yes ( ) No ( )

*If yes to either, provide a comparison between the proposed project concept and the conforming plan's model description. Include such features as project limits, number of through lanes, proposed open to traffic year, etc.*

<p><b>Approved Features:</b>  <i>Describe the feature(s) of the approved project concept to be revised and the reasons for the revision. Use the description contained in the most recent Concept Report or revised Concept Report. This paragraph will describe one or more of the following items:</i></p> <ul style="list-style-type: none"> <li>• Typical section,</li> <li>• Project termini,</li> <li>• Changes in right-of-way limits which may affect the analyses of:             <ul style="list-style-type: none"> <li>○ Historic resources,</li> <li>○ Endangered species,</li> <li>○ Archaeological resources</li> <li>○ Wetlands or open waters</li> <li>○ Streams or their buffers</li> <li>○ Air quality,</li> <li>○ Noise studies,</li> <li>○ Air quality</li> </ul> </li> <li>• Revised alignment (from a widening project to new location project or vice versa, at-grade intersection to grade separation, etc),</li> <li>• Access control</li> <li>• Controlling Criteria</li> </ul>	<p><b>Proposed Features:</b>          List the revised feature(s). Revised Concept Reports will only be submitted for the six items listed above. If the project termini are revised, new milepost beginning and/or ending points shall be provided.</p>
<p><b>Reason for Change:</b></p>	

Updated Cost Estimate	
Construction including Contingencies	
Fuel Adjustment	
Right-of-Way	
Utilities (reimbursable)	
Utility Contingencies	

**Recommendation:** Recommend that the proposed revision to the concept be approved for implementation.

Attachments:

1. Sketch Map,
2. Cost Estimate,
3. Conforming plan's network schematics showing thru lanes, (Note: This attachment is required for non-attainment areas only.), and
4. Other supporting documents.

**Exempt projects**

Concur: \_\_\_\_\_  
Director of Preconstruction

Concur: \_\_\_\_\_  
Director of Program Delivery

Approve: \_\_\_\_\_  
Chief Engineer

**OR**

**Full Oversight projects**

If the project has full Federal oversight, the signature blocks should include the following:

Concur: \_\_\_\_\_  
Director of Preconstruction

Concur: \_\_\_\_\_  
Director of Program Delivery

Approve: \_\_\_\_\_  
Division Administrator, FHWA

Approve: \_\_\_\_\_  
Chief Engineer



## APPENDIX B: Location and Design Approval

### **Requirements for Advertising**

A Location and Design Report and a Notice of Location and Design approval will be required for all Major Projects that require additional right-of-way. On Minor Projects, the Notice of Location and Design approval will be attached to the Concept Report.

For Major and Minor Projects, the Notice of Location and Design approval shall be advertised:

- Within 30 days of Location and Design approval.
- Once a week for four consecutive weeks.
- In each county involved.
- In the newspaper in which the Sheriff's advertisements are carried.

The Notices shall state:

- The Land Lots or Land Districts within which the project is located,
- That a map is available for Review at the Office of the Department of Transportation (GDOT), and
- That a copy may be obtained from the Project Manager's office at a nominal fee.

The Location and Design (L&D) approval date will be shown on the right-of-way plan cover sheet.

The Location and Design (L&D) approval date shall be shown in any petition for condemnation.

For Local Let Projects the local government is responsible for advertising

The District Planning and Programming Engineer shall be responsible for sending an electronic copy of the advertisement to the Design Store and the Project Manager.

**Example of Request for Location and Design Approval****DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA****INTERDEPARTMENT CORRESPONDENCE**

FILE	PI Number and County Project Number Project Description	OFFICE Project Manager Office  DATE Date
FROM:	Office Head	
TO:	Program Control Administrator	
SUBJECT	Request for Location and Design Approval	

**Description and Project Proposal:** *Provide a general description of the project including the length of the project, beginning and ending mile logs, and a general location of the project including any city and county limits or proximity there to and describe the proposed typical sections and other major improvements to be constructed.*

**Concept Approval Date:** *For this date, refer to project files or the Project Management System.*

**Concept Update:** *Describe briefly any changes made after the approval of the Concept Report or revised Concept Report. Be specific. The L&D approval will also serve as approval of the revised concept.*

**Environmental Document Type, Approval Date & any Reevaluations** *Refer to a Project Management System or contact the Office of Environment/Location for this date.*

**Public Involvement:** *(Refer to the project files or the Office of Environment/Location's documentation, which provides this information)*

- Public Hearing Open House Results:
  - Report the date and location of the public hearing and summarize the comments offered by persons attending the hearing,
  - The total number of comments received,
  - Report the number of comments opposing or supporting the project (briefly summarize),
  - The total number of attendees including any public officials in attendance, and
  - Briefly describe the major changes made as a result of the comments received at the public hearings.
- Public Information Open House
  - If any public information open house meetings were held for the project, provide a synopsis of the results of those meetings similar to the comments made for public hearings.

**Consistency with Approved Planning:**

The design description as presented herein and submitted for approval is consistent with the approved Concept Report.

**Recommendations:** *Recommend that the location and design for the project be approved and that the attached Notice be approved for advertising.*

RECOMMEND: \_\_\_\_\_  
Director of Program Delivery

APPROVE: \_\_\_\_\_  
Chief Engineer

\_\_\_\_\_  
Date of Approval

## Attachments:

- Sketch Map
- Cost Estimate
- Notice of Location and Design Approval

**Example of L & D “Notice”****NOTICE OF LOCATION AND DESIGN APPROVAL*****PROJECT NUMBER AND COUNTY  
P. I. NUMBER***

Notice is hereby given in compliance with Georgia Code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of this project.

The date of location approval is *(To be inserted by the Program Control Administrator after approval by the Chief Engineer.)*

*The Project Manager is to use this paragraph to give a basic overall description of the project and the county or counties and the Land Lots or the Land Districts wherein it is located. All numerical units shall be in English units.*

*The Project Manager is to use this paragraph to describe the proposed construction, be brief but be specific.*

Drawings or maps or plats of the proposed project, as approved, are on file and are available for public inspection at the Georgia Department of Transportation:

*Area Engineer's Name  
E-mail Address  
Street Address  
Telephone number*

Any interested party may obtain a copy of the drawings or maps or plats or portions thereof by paying a nominal fee and requesting in writing to:

*Office Head's Name  
Office  
E-mail Address  
Mailing Address  
Telephone number*

Any written request or communication in reference to this project or notice SHOULD include the Project and P. I. Numbers as noted at the top of this notice.

## APPENDIX C: PDP DISTRIBUTION LISTS

### INITIAL CONCEPT TEAM MEETING

The Project Manager will determine the participants to attend the Initial Concept Meeting. The suggested participants will be knowledgeable representatives from:

- Office of Road & Airport Design,
- Office of Innovative Program Delivery or Office of Urban Design (as appropriate),
- Office of Environment/Location,
- Office of Right-of-Way,
- Office of Traffic Operations,
- Office of Bridge Design,
- Office of Program Delivery,
- [FHWA](#) (required on all [Full Oversight](#)),
- [FTA](#) (required on all Commuter Rail projects),
- GRTA (as appropriate),
- Office of Construction,
- Office of Maintenance,
- Office of Materials and Research,
- Office of Engineering Services,
- Office of Planning (to invite appropriate Metropolitan Planning Organization (MPO) or Regional Development Commission (RDC) representative),
- District Engineer,
- local government technical representatives (District Engineer to invite),
- Office of Utilities (they may decide to invite utility company and railroad representatives),
- Office of Intermodal Programs and Aviations Program Manager (if there is an airport within 2 miles of the project).

### CONCEPT TEAM MEETING

- Director of Preconstruction (Letter only)
- Director of Program Delivery (Letter only)
- State Transportation Planning Administrator
- State Utilities Engineer
- Financial Management Administrator
- Project Review Engineer
- State Environmental/Location Engineer
- State Right of Way Engineer
- State Construction Engineer
- District Preconstruction Engineer
- District Utilities Engineer

**CONCEPT REPORTS**

- For those concepts prepared in the District:
  - Project Review Engineer*
  - State Environmental/Location Engineer*
  - State Traffic Operations Engineer*
  - State Transportation Planning Administrator*
  - State Transportation Financial Management Administrator*
  - State Bridge Design Engineer (only for those projects that involve structures)*
  - State Urban Design Engineer (only for those projects prepared by Urban Design)*
  - State Road Design Engineer (only for those projects prepared by Road Design)*
- For those concepts prepared at the Office of Environment/Location:
  - Project Review Engineer*
  - State Traffic Operations Engineer*
  - State Transportation Planning Administrator*
  - State Transportation Financial Management Administrator*
  - State Road Design Engineer or State Urban Design Engineer*
  - District Engineer*
  - State Bridge Design Engineer (only for those projects that involve structures)*
- For those concepts prepared in the Office of Road Design, Office of Urban Design, Office of Innovative Program Delivery, Office of Program Delivery, or Office of Traffic Operations:
  - Project Review Engineer*
  - State Environmental/Location Engineer*
  - State Traffic Operations Engineer*
  - State Transportation Planning Administrator*
  - State Transportation Financial Management Administrator*
  - District Engineer*
  - State Bridge Design Engineer (only for those projects that involve structures)*

**REVISED CONCEPT REPORTS**

Same list as above

**LOCATION AND DESIGN APPROVAL**

Project Review Engineer  
 State Environmental/Location Engineer  
 Financial Management Administrator  
 State Bridge Design Engineer  
 State Traffic Operations Engineer  
 State Transportation Planning Administrator  
 Design Office Head  
 Design Project Manager  
 District Engineer  
 Board Member

**FIELD PLAN REVIEW REQUESTS**

See <http://mygdot/info/pap/forms/2440-1A.pdf>

**DESIGN EXCEPTIONS/DESIGN VARIANCES**

<\\gdot.ad.local\gdot\EngineeringServices\DesignExceptionsVariances>

**FINAL PLANS**

The minimum distribution of the final construction plans by the Project Manager is as follows:

- Office of Engineering Services - Two half sized sets for their use.
- Office of Construction Bidding Administration:
  - For exempt and State funded projects - One set for their use.
  - For Full Oversight projects
    - One set for their use.
    - One half sized set for the [Federal Highway Administration \(FHWA\)](#) to be sent with the PS&E package.
- Office of Traffic Operations - One set for their files.
  - For Interstate ATMS or Limited Access Roadway ITS projects additional distribution will be made as follows:
    - State Signal Engineer - One set for their files.
    - State Bridge Engineer - One set for their files.
    - State Maintenance Engineer – One set for their files.
- Office of Environment/Location - One half sized set for their files.
- Office of Construction – One half sized set for their files.
- District Engineer
  - Applies to plans prepared in the General Office.
    - Two (2) sets of prints, one for the District Office and one for the Area Engineer.
    - The District Utilities Engineer will provide the Project Manager with a print list for District printing requirements for the Utility owners.
    - District Preconstruction Engineer will provide a print list including names and addresses for additional print distribution.
  - Applies to plans prepared in the District Office.
    - The District Preconstruction Engineer shall fulfill the printing requirements for the District.

For more detailed information on Preliminary Field Plan Review requirements, see the internal website.

For Preliminary Field Plan Review Inspections:

<http://mygdot.dot.ga.gov/info/pap/Forms/2440-1a.pdf>

**APPENDIX D: Design Exception or Variance Report Example****DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

FILE	<i>PI Number and County</i>	OFFICE	<i>Design Office</i>
	<i>Project Number</i>		
	<i>Project Description</i>	DATE	<i>Date</i>
FROM:	<i>Office Head</i>		
TO:	<i>Project Review Engineer</i>		
SUBJECT	<i>Request for Design Exception (or Variance)</i>		

Approval of a Design Exception (or Variance) is requested for this project.

*Provide a general description of the project including the length of the project, beginning and ending mile logs, the general location of the project including any city and county limits or proximity thereto, speed design, and describe the proposed typical sections and other major improvements to be constructed.*

*Describe the feature(s) requiring a design exception or a design variance. Give the values of the current guidelines and the values that are proposed to be used. Include the value of the beginning and the ending mile points for the design feature.*

*Describe current and future traffic data and/or attach traffic diagrams with all traffic data including the accident history within the project limits for the last three years. In particular address and summarize the accident experience related to the feature requiring a design exception or variance request.*

*Summarize why the current guidelines cannot be met.*

*Summarize the cost estimate for construction and right-of-way for constructing or reconstructing the design feature to meet current guidelines. If mitigation or safety enhancement costs are significant, summarize these costs at this point.*

*Describe any mitigation proposed to lessen the impact of not meeting current guidelines. BE SURE TO INCLUDE SAFETY ENHANCEMENT FEATURES (such as signing, striping, etc.) TO BE CONSTRUCTED IF THIS EXCEPTION IS APPROVED.*

*The Project Manager must make a recommendation to the approving authority for action. Any conditions to the approval of this exception should be clearly stated. Include name and contact number.*



*The signature block for approval will take one or the other of the following forms:*

- **For not on the Interstate System:**

Approved: \_\_\_\_\_  
Chief Engineer Date

- **For projects on the Interstate System: (*Full oversight or Exempt*)**

Recommend: \_\_\_\_\_  
Chief Engineer

Approved: \_\_\_\_\_  
FHWA Division Administrator Date

- For projects with multiple exceptions or variances, approval is required for each. Use multiple signature lines.
- For full oversight projects use one letter for each request.

## **APPENDIX E: Procedures for Determining Bridge Size at Stream Crossings**

1. Information is obtained from field surveys that include a stream traverse, flood of record elevations, and a cross- section of the floodplain at the bridge site.
2. A hydraulic site inspection is then made at the job site in order to determine "n" values and direction of flood flow. Also, observations are made for any natural constrictions in the flood plain other than directly at the bridge site. The stream is observed for stability and type of bed material and the floodplain is observed for any structures that have been flooded before or might be flooded in the future. Also, the immediate bridge sites both upstream and downstream of the project are observed for adequacy of opening and scour problems. Local residents in the area are contacted concerning any local flood problems that they have encountered.
3. Drainage area for the site is then determined from USGS Quadrangle Sheets. The design flood (50 year) discharge and basic flood (100 year) discharge is determined from USGS Gaging Station Information, if available. If no Gaging Station is available, then the discharges are determined from appropriate methods contained in the Georgia Manual on Drainage Design for Highways.
4. A bridge length is then chosen that will permit conveyance of the design flood and basic flood without increasing flood heights or velocities to an extent that would cause significant upstream or downstream damage to existing reasonably anticipated future development.
5. Reports and information from other sources such as Corps of Engineers, U.S. Geological Survey and Flood Insurance Studies are incorporated into our study.
6. If our study disagrees with reports on the area by other agencies, an attempt is made to resolve these discrepancies.
7. All of the above mentioned information is then incorporated into a written "Hydraulic and Hydrological Study" for the site, which is kept on record in the General Files and the Office of Bridge Design files for future reference.

## APPENDIX F: FHWA Exemptions from U. S. Coast Guard Permit Requirements

The Federal Highway Administration was given the authority to exempt certain bridge projects in tidal waters from requiring a U. S. Coast Guard permit by Section 144(h) of Title 23 USC as amended by the Highway Act of 1987. This authority was in addition to the existing authority given to the Federal Highway Administration for exempting certain bridge projects in non-tidal waters as per 23 CFR, Subpart H, Section 650.805. This additional authority applies to any bridge constructed, reconstructed, rehabilitated, or replaced in tidal waters, which are:

1. Not used and are not susceptible to use, in their natural condition or by reasonable improvement, as a means to transport Interstate or foreign commerce.
2. Used only by recreational boating, fishing, and other small vessels less than 21 foot (6.4 m) in length.

A bridge replacement is defined to mean any project, which will involve a new bridge or the total removal of the superstructure or more of an existing bridge. Anything less than this in scope, as well as any new bridge built parallel to an existing bridge that is not being replaced, will be considered to be bridge rehabilitation.

The following table is to be used as a guide in determining when a U.S. Coast Guard permit should be obtained.

<b><u>TIDAL WATER</u></b>	<b><u>REPLACE</u></b>	<b><u>REHABILITATE</u></b>
Water depth at site < 5 ft (1.5m) at low tide	X	X
Vertical clearance at < 15 ft. (4.5m) at high tide.	X	X
Water depth > 5 ft. (1.5m) at low tide and vertical clearance > 15 ft. (4.5m) at high tide.	E	E
Susceptible to Interstate or foreign commerce navigation by Federal Authorization only. Interstate or foreign commerce navigation in fact.	P	E
Interstate or foreign commerce navigation in fact.	P	P
<b><u>NON-TIDAL WATER</u></b>		
Susceptible to Interstate or foreign commerce navigation by:		
Federal Authorization only. Interstate or foreign Commerce navigation in fact.	E	X
Interstate or foreign commerce navigation in fact.	P	P

Note:

X = Site exempt from USCG permit.

P = Site requires application for USCG permit.

E = Site requires evaluation to determine status.

The Coast Guard permit limits for navigable rivers in Georgia, interstate or foreign commerce navigation in fact, are as follows:

- (1) Chattahoochee River - From the dam at the West Point Reservoir, downstream to the Georgia-Florida border.
- (2) Flint River - From the dam at the Georgia Power Company Reservoir at Albany, Georgia, downstream to its junction at the Chattahoochee River.
- (3) Coosa River - From the junction of the confluence of the Etowah River and the Oostanaula River, downstream to the Georgia-Alabama border.
- (4) Etowah River - From the Norfolk-Southern Railway Bridge immediately east of the US-27 (State Route 1) bridge near Rome, Georgia, downstream to the junction with the Coosa River.
- (5) St. Mary's River - From the US-301 Bridge near Folkston, Georgia, downstream to the Coastal Boundary Area.
- (6) Altamaha River - From the confluence of the Oconee River and the Ocmulgee River, downstream to the Coastal Boundary Area.
- (7) Savannah River - From the dam at Clarks Hill Reservoir, downstream to the Coastal Boundary Area.

## APPENDIX G: Procedure for Securing Consultant Services

Georgia Department of Transportation (GDOT) uses Professional Engineering Consultants (Consultants) for three primary reasons:

1. Accommodate peaks in design workload.
2. Accelerate project development on high priority projects.
3. Obtain special expertise not available or limited within the Department.

Securing Consultants requires adherence to State and Federal guidelines for the procurement of Architectural and Engineering (A&E) services. The Procurement Division, more specifically, Transportation Services Procurement (TSP) is responsible for procuring A&E services.

To initiate the process for securing a Consultant, the requestor must complete a Procurement Requisition Form and submit the form to TSP. As part of the selection process, TSP will assist the requesting party in selecting the most expeditious and beneficial contracting method to meet their needs. In depth details for the procurement process of consulting services may be found in the GDOT Procurement Manual, located at: <http://mygdot/info/pap/Forms/ManualofGuidance.pdf>

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

FILE:        *PI and County*                      OFFICE:   *Design Office*  
              *Project number xxxxxx*        DATE:     *Date*  
              *Project Description*  
FROM:       *Office Head*

TO:    For Consultant Authority:  
         *Name*  
         State Transportation Engineering Administrator  
         Office of Financial Management

TO:    For Work/Task Order Authority:  
         *Name*  
         Director of Program Delivery

SUBJECT: Request for Consultant Authority or Work/Task Order Request

**Project description:** *Provide a clear and concise project description to include:*  
                         *Beginning and ending point and describe the general alignment between these two points*  
                         *Length of the project,*  
                         *Proposed typical section,*  
                         *Major structures,*  
                         *Major intersections and or interchanges,*  
                         *Right-of-Way requirements including access control,*  
                         *Speed design, and*  
                         *Proposed let date or date of completion of the Work/Task Order.*

**Reason for the request and brief proposed scope of work:**

Describe why the work cannot be preformed in-house:

*Shortage of personnel,*  
                 *Accelerated schedule,*  
                 *Requirements for special expertise, etc.*

State the general scope of work requested such as:

*Concept Development, Preliminary plans, Right-of-Way plans, Final construction plans, Special studies, etc.*

**Estimated cost:** The estimated construction cost for this project is \$xx,xxx,xxx and the consultant cost or Work/Task Order is estimated between \$x,xxx,xxx and \$y,yyy,yyy.

The proposed consultant or Work/Task Order agreement would be a cost plus fixed fee contract obtained by negotiation.

Cc: Office of Transportation Services Procurement  
Budget Office

- For Consultant Authority Request:

**RECOMMENDED:**

\_\_\_\_\_  
Name, P.E.  
Director of Program Delivery

**APPROVED:**

\_\_\_\_\_  
Name, P.E.  
Chief Engineer

\_\_\_\_\_  
Date

- For Work/Task Order Request:

**APPROVED:**

\_\_\_\_\_  
Name, P. E.  
Director of Program Delivery

\_\_\_\_\_  
Date

## APPENDIX H: Plan Revision Procedures

It is the goal of the Preconstruction Division and Program Delivery Division to minimize, if not eliminate, all plan revisions and amendments to the proposal. However, circumstances sometime necessitate plan changes that result in revisions and/or amendments.

Preconstruction and Program Delivery Offices are responsible for managing their assigned projects in accordance with the Plan Development Process. This includes the revision of construction plans after final plans have been submitted to the Office of Construction Bidding Administration for the Letting and after the project has been Let to contract and awarded.

The Project Manager is responsible for making plan revisions. In making plan revisions the Project Manager must ensure the revision does not change the conditions of any permits or the environmental impacts addressed in the approved environmental document. The Project Manager shall review any proposed plan revisions with the Office of Environment/Location when a changed condition to the approved permits or environmental document is suspected. The Project Manager shall also review any proposed plan revision with the Office of Traffic Operations Systems Engineer when a change condition to any ITS project is suspected.

Office of Construction Bidding Administration shall be contacted and concur before any revision or amendment is made after Final plans are submitted to the Office of Construction Bidding Administration and before the project is Let to contract. The Office of Construction shall be contacted and concur before any revision is made after the project is Let to contract and awarded.

The FHWA shall be contacted and their concurrence received before any plan revision is made on any Full Oversight project.

Plan revisions can be classified into three categories:

- Revisions to construction plans after submission to the Office of Construction Bidding Administration for letting and prior to Advertisement (Revision Prior to Advertisement).
- Revisions to construction plans to incorporate amendments to the proposal which have been processed by the Office of Construction Bidding Administration (Amendment Revision).
- Revisions to construction plans that occur directly as a result in changes required on construction after the project is awarded (Use on Construction Revision).

For information on the process of storing revisions electronically after the project has been let to contract and awarded, refer to the GDOT Electronic Plans Process document.

In order for the revision process to be consistent, the following procedure for revising construction plans will be followed:

### **Revision Prior to Advertisement**

Final plans are to be submitted ten weeks prior to letting to the Office of Construction Bidding Administration and the original plans to the General Office Reproduction Center five weeks prior to the Letting. Plans may be revised, with concurrence of the Office of Construction Bidding



Administration, no later than six and one-half weeks prior to the Letting for projects other than Full Oversight (FOS) projects and no later than seven and one-half weeks (1 ½) for FOS projects. This allows time for the Office of Construction Bidding Administration to process the revision and print the proposal before project advertisement to contractors. Revision dates shall be added to all revised sheets and each revision listed and described on the Revision Summary Sheet.

Approved revisions will be submitted to the Office of Construction Bidding Administration with copies distributed using the same distribution list as final plans.

### **Revisions by Amendment**

From the six week period to the Letting, no plan changes shall occur without the prior concurrence of the Office of Construction Bidding Administration and approval of the Chief Engineer. All approved changes will require an amendment to the proposal and may occur from the six week/seven week period to 10 calendar days prior to the Letting. Revision dates shall be added to all revised sheets and each revision listed and described on the Revision Summary Sheet.

After the letting, the apparent low bid may be awarded, rejected, or deferred. Prior to bid opening, a project may also be withdrawn from the Letting. The disposition of each contract in the Letting will be listed in the award announcement that is published the Friday following the Letting. This report is also available in electronic format on the Office of Construction Bidding Administration's Web Page. Based on the bid status, the following plan revision by amendment actions may be taken with a set of plans dependent upon the acceptance of the bid:

#### **Awarded:**

Construction plans should be revised to incorporate any amendments processed by the Office of Construction Bidding Administration, submitted to the contractor with copies distributed using the same distribution as final plans except the Office of Construction Bidding Administration and the Project Review Engineer will not receive copies and include copies to the Office of Road and Airport Design Engineer, Attention: Design Services Supervisor. **NOTE: Plan quantities shown on the Detailed Estimate shall not be changed to agree with the processed amendment.** Any quantity changes as a result of the processed amendment are to be listed on the "Quantities Required by Amendment" sheet, which will be added to the plans (see table at the end of this appendix).

#### **Rejected:**

Construction plans should be revised to incorporate any amendments processed by the Office of Construction Bidding Administration and resubmitted to the Office of Construction Bidding Administration in accordance with the processing schedule for the new Let date using the same distribution as final plans. Quantities on the Detailed Estimate should be changed to agree with the processed amendment.

#### **Deferred:**

A project may be let to contract and an acceptable bid received. However, the award may be deferred until such time that any utility, right-of-way, permit, or any other problem is resolved. The revision should be made the same as for an "Awarded" project after notification has been distributed, by a supplemental award announcement, verifying the low bid proposal has been awarded. If the supplemental award announcement shows the project rejected, then process the revision the same as a "Rejected" project above.

**Withdrawn:**

Construction plans should be revised to incorporate any amendments processed by the Office of Construction Bidding Administration and submitted to the Office of Construction Bidding Administration with copies distributed using the same distribution as final plans. Quantities on the Detailed Estimate should be changed to agree with the processed amendment.

On all amendment revisions, the revision summary sheet shall list the date and a detailed description of the revision and also list the amendment number and date of amendment.

**Use on Construction Revisions**

Use on construction revisions may occur any time during the life of the construction contract. At no time shall the integrity of the "As Bid" plan information, shown on the original construction plans, be altered by deleting or erasing as a result of any "Use on Construction" revision. Changes to the information shown on the original plan sheets may be accomplished by copying the original sheet, and labeling the copy of the original plan sheet as "Use on Construction" as directed in the Plan Presentation Guide and revising the information thereon as required. The original quantities listed on the Detailed Estimate are not to be altered or revised on any revision required on construction. Any quantities or additional pay items required on construction are to be listed on the "Quantities Required on Construction" sheet, which will be added to the plans (see table at the end of this appendix). These pay items will require a supplemental agreement to the contract that will be negotiated before the revision has been processed. If the revision required significant changes to the original plans, the original plan sheet may be voided on construction and a "Use on Construction" sheet, with the revision included, added to the plans.

However, any additional pay items required on construction that will result in a supplemental agreement with significant increase in cost must be negotiated with the contractor before an official revision can be processed. Copies of the revised plan sheets are to be submitted to the District Construction Engineer for negotiations with the contractor. When an acceptable price has been negotiated, the District Construction Engineer will notify the Project Manager that the official revision should be submitted. The Project Manager and the Project Engineer shall give the highest priority to preparing and issuing "Use on Construction" revisions as they may affect the overall cost of the project or the completion date of the project or both.

On FOS Projects, FHWA must approve the change before the revision can be processed.

The completed plan revisions should be submitted to the responsible District Area Office including the appropriate number of copies for the contractor. The construction project manager will submit the revision to the contractor. Additional copies of the revisions should be distributed using the same distribution as final plans plus the Office of Road Design Engineer, Attention Design Services Supervisor and minus the Office of Construction Bidding Administration and the Project Review Engineer. It is recommended that the Project Manager contact the Area Engineer that a revision is being processed and/or has been sent.

On all revisions, the revision summary sheet shall list the date and a description of the revision.

A "Quantities Required on Construction" sheet and a "Quantities Required by Amendment" sheet will be available in a cell library. Please contact the Office of Road Design if there are any further questions.

Quantities Required By Amendment					Project No. & County:		
					P.I. Number:		
Date	Item Number	Amendment Date	Amendment Number	Description	Units	Original Quantity	Revised Quantity

Quantities Required On Construction				Project No. & County:	
				P.I. Number:	
Date	Item Number	Description	Units	Original Quantity	Revised Quantity

**NOTE:** COPY AND REFORMAT THESE TABLES AS NEEDED

### As-Built Plans

All As-Built Plans are to be submitted directly to the State Road Design Engineer, Office of Road Design, ATTN: Preconstruction Design Services Supervisor. The plans are to be clearly marked and labeled as "*As-Built Plans*". The Office of Road Design will be responsible for transferring the hard-copy plans into electronic format and placing them into the electronic plans repository.

## APPENDIX I: Detour Report and Notice

A Detour Report and a Notice of Detour Approval will be required for all projects that require the temporary detouring of a roadway for construction.

The Notice of Detour Approval shall be advertised:

- Within 30 days of detour approval.
- Once a week for four consecutive weeks.
- In each county involved.
- In the newspaper in which the Sheriff's advertisements are carried.

The Notices shall state:

- The project number and brief project description of the project.
- Statement that the roadway will be closed for construction and the length of time the roadway is expected to be closed.
- A description of the detour route to be used.
- Statement informing the public that a map is available for review at the \_\_\_\_\_ Office of the Department of Transportation (GDOT).
- Statement giving the public a point of contact to discuss the detour.

The following are examples of:

- Letter of request for Detour approval.
- Example of a Notice of Detour Approval.

For Local Let Projects, the local government shall be responsible for advertising the Detour Notice.

**Example of Detour Report and Request for Detour Approval****DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA****INTERDEPARTMENT CORRESPONDENCE**

FILE	<i>Pi Number and County</i>	OFFICE	<i>Design Office</i>
	<i>Project Number</i>	DATE	<i>Date</i>
	<i>Project Description</i>		
FROM:	<i>Office Head</i>		
TO:	<i>Program Control Administrator</i>		
SUBJECT	<i>Detour Approval</i>		

**Description and Project Proposal:** *Provide a general description of the project including the length of the project, beginning and ending mile logs, and a general location of the project including any city and county limits or proximity thereto and describe the proposed typical sections and other major improvements to be constructed.*

**Concept or Concept Update Approval Date:** *For this date, refer to project files or the project management system.*

**Reason a detour is required:** *Brief description of why the Roadway must be closed. Describe the alternatives considered, including an on-site detour, the pros and cons of each alternative, and the cost for each alternative.*

**Environmental Assessment of the proposed detour route:** *Required statement from the Office of Environment/Location that the detour route has been evaluated and cleared or appropriate approvals obtained.*

**Public Information Meeting for Proposed Detour (Detour Meeting) Results:**

- Detour Meeting
  - *For every Detour Meeting held for the project, provide a synopsis of the results of those meetings:*
    - *Report the date and location of the detour meeting and summarize the comments offered by persons attending.*
    - *Report the number of comments opposing or supporting the project – briefly summarize.*
    - *The total number of comments received.*
    - *The total number of attendees including any public officials in attendance.*
    - *Briefly describe the major changes made as a result of the comments received at the detour meeting.*

**Recommendations:** *The Project Manager to provide the Chief Engineer with a recommendation concerning the proposal for a detour of this project.*

RECOMMEND: \_\_\_\_\_  
Director of Program Delivery

APPROVE: \_\_\_\_\_  
Chief Engineer                      Date of Approval

Attachments:

- Proposed Notice.
- Location sketch of each detour route studied.
- Public Information Meeting for Proposed Detour comment cards.
- Public Information Meeting for Proposed Detour transcript.

## Example of “Notice”

**NOTICE OF DETOUR APPROVAL*****PROJECT NUMBER AND COUNTY******P. I. NUMBER***

Notice is hereby given that the Georgia Department of Transportation has approved the use of and the routing of a detour for this project.

The date of detour approval is *(to be inserted by the Program Control Administrator after approval by the Chief Engineer)*.

*The Project Manager is to use this paragraph to give a basic overall description of the project and the county or counties wherein it is located.*

*The Project Manager is to use this paragraph to describe the proposed detour; be brief but be specific.*

Drawings or maps or plats of the proposed project, as approved, are on file and are available for public inspection at the Georgia Department of Transportation:

*Project Manager's Name*

*E-mail Address*

*Street Address*

*Telephone number*

**APPENDIX J: Final Plans Transmittal Letter****DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

FILE     *PI Number and County*  
          *Project Number*  
          *Project Description*

OFFICE:

DATE:

FROM:   *Office Head*

TO:      State Transportation Office Engineer – Office of Construction Bidding Administration

SUBJECT Final Plans Submission

Attached is the final plan package for the above listed project. This project is scheduled for the date letting. Plans have been prepared in *English/Metric* units and in accordance with the Final Field Plan Review Report dated date.

*Provide a brief description of the project including project limits, project length and proposed typical section.*

The final plan package includes:

1. Final Construction Plans
2. Designer's Checklist for Plans Submittal to the Office of Construction Bidding Administration
3. Designer's Final Construction Cost Estimate
4. Computer diskettes with earthwork end area files
5. Summary of earthwork quantities
6. Notice of Intent (Storm Water Discharge from Construction Activity)
7. Special Provisions:  
      *List of special provisions*
8. Soil Survey Report
9. Bridge Foundation Investigation Report

If there are any questions please contact *Project Manager* at *phone number*.

XXX.xxx

Attachments



*Cc: State Transportation Financial Management Administrator, (letter only, w/designer's final cost estimate)*  
*State Utilities Engineer (letter only)*  
*Project Review Engineer, w/plans, special provisions and earthwork summary (2 half size prints)*  
*State Environmental/Location Engineer, w/plans (1 half size prints)*  
*State Traffic Operations Engineer, Attn: Design Review Engineer, w/plans (1 Construction Engineer), w/plans (1 half size prints)*  
*Environmental Compliance Manager, w/plans, (1 half size prints)*  
*State Bridge Design Engineer (for projects which involve structures), w/plans (1 full size prints)*  
*District Engineer, w/plans (1 full size prints)*

## APPENDIX K: Traffic Engineering Report

The Manual on Uniform Traffic Control Devices (MUTCD) requires a traffic engineering study to determine if a traffic control signal is justified. The factors to be considered in the study are not specified. However, the MUTCD indicates that the study should include the factors contained in the warrants and those related to the operation and safety of the location in question and it suggests several items that may be included.

The number of vehicles entering the intersection in each hour from each approach during the 12 consecutive hours of an average day that contain the greatest percentage of the 24-hour traffic,

- Vehicular volumes for each traffic movement from each approach, classified by type of vehicle (heavy trucks, passenger cars and light trucks, public-transit vehicles, and, in some locations, bicycles), during each 15-min period of the 2 hours in the morning, 2 hours at midday, and 2 hours in the afternoon during which total traffic entering the intersection is greatest.
- Pedestrian volume counts on each crosswalk during the same periods as the vehicular counts just described, and also during hours of highest pedestrian volume (where young or elderly persons need special consideration, the pedestrians may be age-classified by general observation).
- Existing conditions diagram.
- Location map.
- The posted or statutory speed limit or the 85<sup>th</sup>-percentile speed on the uncontrolled approaches to the location.
- An existing condition diagram based on field observations showing details of the physical layout, including such features as adjacent intersections, highway geometrics, traffic control, grades, channelization, sight-distance restrictions, bus stops and routings, parking conditions, pavement markings, street lighting, driveways (curb cuts), nearby railroad crossings, distance to nearest signals, utility poles and fixtures, delays, and adjacent land use.
- A collision diagram showing accident experience by type, location, direction of movement, severity, time of day, and day of week for at least one year.
- Traffic signal warrant analysis.
- Capacity Analysis and evaluation of turn lane necessity.
- Proposed Improvements diagram.
- Conceptual signal design (if warranted).

- Recommendations and Conclusions.

Additional data may be useful in evaluating the potential improvements in the overall operation and safety of the intersection. These include vehicle-seconds of delay by approach, the number and distribution of gaps on the major street, and pedestrian delay time. Analysis of these data may show that, although warranted by vehicular volumes alone, a traffic signal may not be justified.

If the study data shows little or no delay, relatively few correctable collisions, and adequate gaps for side-street traffic to enter, and do not indicate any potential improvement with a traffic control signal, the signal should not be considered for installation.

D.O.T. 66

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

FILE

OFFICE  
DATE

FROM ..... District Traffic Engineer

TO ..... State Traffic Operations Engineer  
Attn:SUBJECT Traffic Signal Permit Request  
State Route Number .....  
Intersection of ..... and .....  
MP ..... , ..... County

Attached is a traffic signal engineering report as requested by the City of \_\_\_\_\_ , \_\_\_\_\_  
County, for the placement of a traffic signal at the subject intersection.

Based on the attached information, it is recommended that the Department issue a signal permit to  
\_\_\_\_\_ County for the installation of a traffic signal at the subject intersection.

Also attached are a signed permit application, signal design and a location map. If you have any  
questions, please call me at ..... .

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**TRAFFIC ENGINEERING REPORT**

For the intersection (*or intersections*) of: (*describe all*)

STATE ROUTE \_\_\_\_\_ AND \_\_\_\_\_  
(Street, Avenue, Blvd., etc.)

In the City of \_\_\_\_\_, *if applicable*

County of \_\_\_\_\_

At Mile log: \_\_\_\_\_.

Provide a simple location sketch for the  
intersection.

Report prepared by:

*Name*

*Title*

*Address*

Telephone Number: (Area Code) Telephone Number

E-mail Address: *[Name]* @dot.state.ga.us

FAX Number: (Area Code) FAX Number

Date report prepared: \_\_\_\_\_

Traffic Engineering Report  
 State Route \_\_\_\_\_ and \_\_\_\_\_  
 Date \_\_\_\_\_  
 Page 3 of \_\_\_\_

**Location:** *Describe in the location detail using the cover sheet (page 1) description as the basis of the narrative.*

**Reason for the investigation:**

\_\_\_\_\_ County has officially requested GDOT consider the placement of a stop-and-go traffic signal at this location. This corridor has experienced tremendous growth over the last 20 years with many commercial and residential establishments.

**Description of the intersection:** Include the proper name and route designations of all intersection legs, describe the typical section of all legs, give the major origin and destination of each leg, describe street lighting, note any history or architecture (context) that should be considered, describe any controlling criteria not meeting present guidelines, note the presence or proximity of railroads, and the describe the terrain.

- *State Route 000 is a five lane section including a center turn lane. There are three thru lanes westbound and eastbound at the intersection with City Street X, the intersecting street. City Street X intersects SR000 at the bottom of a sag vertical curve. SR000 is a heavily traveled major arterial that connects City A and Town B.*
- *Intersecting Street is a two lane roadway that serves a relatively small townhouse complex.*

**Traffic volumes in vehicles per day (vpd):** (Use a minimum of three years)

Latest year percent trucks:

Latest year 24 hour percent trucks:

YEAR	SR ____ @ MP ____. Count Station????? (vpd)	Intersecting Street Name (vpd)
Latest year	(Volume)	(Volume)
Latest year -1	(Volume)	(Volume)
Latest year -2	(Volume)	(Volume)
Latest year -3	(Volume)	(Volume)
Latest year -4	(Volume)	(Volume)

Morning and evening peak hour turning movement counts are attached.

**EXISTING TRAFFIC CONTROL:** *(Fully describe the existing traffic control for each leg of the intersection)*

- State Route
- Intersecting street

Traffic Engineering Report  
 State Route \_\_\_\_\_ and \_\_\_\_\_  
 Date \_\_\_\_\_  
 Page 2 of \_\_\_\_

**Vehicular speeds:** (Give the posted speed limit on each approach leg. *The posted speed limit on SR000 is 45 MPH. However, this stretch of SR000 experiences observed speeds well over 50 MPH*)

- State Route.
- Intersecting street.

**Pedestrian movements:** (Describe all pedestrian movements including the presence or absence of sidewalks)

- *The north side of SR000 is undeveloped at this time and there are no sidewalks along SR000.*
- *Although City Street A services a townhouse complex, no pedestrians were observed and none are anticipated. There are no sidewalks present.*

**Other modes of transportation present:** (bicycle facilities, transit, bus stops, etc.)

**Delay:**

*Observation during peak traffic periods revealed motorists on the side street experienced a minimal delay. However, adequate gaps were created by adjacent signals on SR000.*

**Parking:**

*There was no parking observed or expected at the intersection.*

**Accident History:**

Year	Accidents							Injury	Fatal
	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total		

Accident printouts are attached. It appears that only two of the accidents from 1995 to 1998 were preventable by signalization.

**Adjacent Signalized Intersections:**

*There is a signal located at the intersection of SR \_\_\_\_\_ @ \_\_\_\_\_ Road 1500 feet west of the subject intersection. There is a signal located at the intersection of SR \_\_\_\_\_ @ \_\_\_\_\_ Road 2000 feet east of the subject intersection.*

**Traffic Engineering Report**

State Route \_\_\_\_\_ and \_\_\_\_\_

Date \_\_\_\_\_

Page 3 of \_\_\_\_

**Warrant Analysis:**

*XXX County performed a warrant analysis on this intersection with no warrants being met. However, Warrant #5 may apply at this location. A traffic signal installed at this location could provide proper grouping of vehicles and could effectively regulate group speed. Warrant 5 states that "progressive movement control sometimes necessitates traffic signal installations at intersections where they would not otherwise be warranted."*

**Recommendations:**

*It is recommended that a signal permit be issued to XXX County for the installation of a traffic signal at the intersection of SR000 @ City Street A. It is recommended that the County purchase all needed equipment for the installation. XXX County will install and maintain the signal. (if applicable).*

**RECOMMENDED BY:** \_\_\_\_\_  
District Traffic Engineer

DATE: \_\_\_\_\_

**RECOMMENDED BY:** \_\_\_\_\_  
State Traffic Operations Engineer

DATE: \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_  
Director of Operations

DATE: \_\_\_\_\_



**Traffic Engineering Report**

State Route \_\_\_\_\_ and \_\_\_\_\_

Date \_\_\_\_\_

Page 4 of \_\_

**Traffic Engineering Report Appendix**

- Sketch of the present intersection.
- Sketch of the proposed intersection.
- Traffic Signal Warrants Analysis - PC Warrants.
- Traffic Count Summary Sheets.
- Accident Diagram.

**APPENDIX L: Constructionability Review Guidance Tool**

CONSTRUCTABILITY REVIEW GUIDANCE TOOL		
Project No.		
P.I. No.		
Route / Termini:		
County:		
<b>A</b>	<b>SITE INVESTIGATION</b>	<b>COMMENT</b>
1	Perform field investigation to ensure actual site conditions reflected in the plans and design.	
2	Perform utility investigation – overhead & underground conflicts, notify all utilities.	
3	Ensure proper lay down, stockpile, and staging areas are available.	
4	Ensure input from local government departments regarding development approvals and signed permits are	
5	Permit concerns such as SPDES, CORP, DNR, etc. are known.	
6	Consider project access requirements for contractor equipment and operations.	
<b>B</b>	<b>EARTHWORK</b>	<b>COMMENT</b>
1	Ensure earthwork volumes are economically balanced in each stage of construction whenever possible.	
2	Any visual evidence, or prior indication by past local area projects, that rock will be encountered within project.	
3	Temporary stream crossings considered when earthwork balances dictate hauling across a river or stream.	
<b>C</b>	<b>BASES &amp; PAVEMENT</b>	<b>COMMENT</b>
1	Ensure profile grades have been established.	
2	Provide allowances for contractor equipment and operations in staged construction or when constructions	
3	Concrete base widening considered in lieu of asphalt base in urban areas where entrances and irregular areas	
4	Allowances have been made for equipment widths, track lines, string lines, etc. when lanes are paved in stages or	
5	Asphalt versus concrete pavement selection are appropriately selected with respect to staging concerns.	
6	Ensure asphalt leveling quantities will be sufficiently calculated for staging phases.	
<b>D</b>	<b>DRAINAGE</b>	<b>COMMENT</b>
1	Consider temporary / permanent drainage systems and facilities during each stage of construction.	
2	Ensure erosion control has been provided for each stage or work.	
3	Impacts of future urban development has been considered in stormwater design.	
4	Temporary ditches and pipes are incorporated in each stage to allow runoff to occur.	
<b>E</b>	<b>STRUCTURES – Bridges, Culverts and Retaining Walls</b>	<b>COMMENT</b>
1	Ensure there is sufficient room between existing and new alignments for bridge construction.	
2	Make provisions for contractor access to the site (long beams, large cranes, etc...)	
3	Ensure bridge staging is coordinated with roadway staging.	
4	Vertical clearances have been considered.	
5	Final retaining wall elevations and staging plans are compatible.	
<b>D</b>	<b>TRAFFIC CONTROL PLAN</b>	<b>COMMENT</b>
1	All city and county road closures have been identified and approved.	
2	Ensure traffic control requirements are realistic for site conditions.	
3	Check all temporary lanes widths for adequacy.	
4	All lane closures are reasonable for traffic volumes and penalty for closure is provided for when required.	
5	Power source and overhead clearances are available for temporary/permanent lighting, flashing, barricades and	
6	Detours have been considered to avert delays.	
7	Traffic control study completed and compatible with staging plans. Incident plan developed and realistic.	
<b>H</b>	<b>MAINTENANCE CONSIDERATIONS</b>	<b>COMMENT</b>
1	Project specific concerns are addressed by GDOT District Maintenance Engineer.	
<b>I</b>	<b>JOB SPECIAL PROVISIONS/PLANS</b>	<b>COMMENT</b>
1	Typical sections are provided for all pavement/shoulder transition areas.	
2	Any conflicts between the special provisions, standard specs., and plans.	
3	Railroad involvement?	
4	Details as shown on the plans can be constructed using standard equipment and operating procedures.	
5	Temporary median crossovers have been considered on dual lane roadways to shorten haul times.	
6	All utility lines that cross the alignment have the vertical clearances required for earthmoving equipment to pass	
7	Existing billboards and signage conflicts considered.	
<b>J</b>	<b>CONSTRUCTION STAGING</b>	<b>COMMENT</b>
1	Construction staging will not require material to be hauled across/over the new pavement or provisions for x-over	
2	Existing pavement to be removed can be incorporated into staged in slopes or disposal sites available within the	
3	Work has been phased to minimize the number of stages.	
4	Coordinate structure and roadway staging.	
5	Private and commercial entrances accessible at all times on all stages.	
<b>K</b>	<b>RIGHT OF WAY</b>	<b>COMMENT</b>
1	Sufficient Right-of-Way available for all operations.	
2	Sufficient easements available for all operations.	
3	All buried UST's and environmental contamination sites have been investigated and disposal plans developed.	
4	Removal of all structures (houses, businesses, wells, etc.) in R/W Agreement are removed BEFORE construction	
<b>L</b>	<b>SCHEDULE</b>	<b>COMMENT</b>
1	Working days and productions rates for work items are reasonable.	
2	Construction staging sequences checked for accuracy.	
3	Consideration has been given for seasonal / weather constraints.	
4	All regulatory permit restrictions such as working in a river or cutting trees have been clearly identified.	
5	Any local restrictions on working hours have been identified.	
6	Material submittal lead times are compatible with recommended project schedule.	
7	Is there need for detailed scheduling implementation?	

## APPENDIX M: Post Construction Evaluation Guidance Tool

[illegible]

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